NEW EQUIPMENT DIGEST

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February, 1959

Volume 24—Number 2

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CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 4 and 100

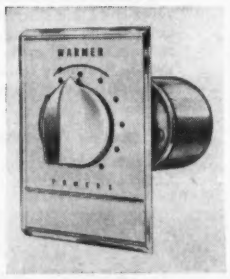
EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

PILLOW BLOCK BEARINGS
ductile housings resist shock

Housings of these pillow block and flange bearings are made of ductile material that resists shock and vibration. Bearings have an extended inner ring, two set screws for locking the bearing to the shaft, and elongated bolt holes for easy mounting. They will accommodate normal shaft misalignment, and have neoprene seals and standard grease fittings for relubrication. Shaft sizes from ½ through 1 3/16 in. are offered. Line also includes bearings with heavy cast iron housings for normal duty. These have eccentric collar-type shaft locks, automatic self-alignment, felt seals, and metal seals. They are offered in ¾ through 2 15/16 in. shaft sizes. Made by **Hoover Ball & Bearing Co.**, 5400 S. State Rd., Ann Arbor, Mich.

▲ For more details circle **NED-1 B9** on enclosed inquiry slip ▲

REMOTE POSITIONING SWITCH
for various air-operated processes



Lag between the switch and actuator mechanism in pneumatically - operated industrial processes is eliminated by this redesigned positioning switch, 20 per cent smaller than earlier models. It is primarily used for remote control of pneumatic valves or damper motors. Turning of its knob gradually increases or decreases compressed air flow to these devices, opening or closing them to the desired position. Switch can be flush or surface mounted on panel boards. It requires 2⅜ x 3⅜ in. of panel space and is 2¼ in. deep. Body air connections are for 1/16 in. NPT. Flexible air hoses with terminal connection for ¼ in. OD tube are supplied. Three standard and various special dial plates are offered. Made by **Powers Regulator Co.**, 3440 Oakton St., Skokie, Ill.

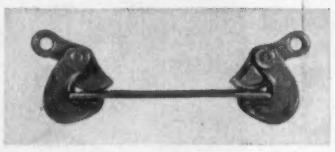
▲ For more details circle **NED-2 B9** on enclosed inquiry slip ▲

TOOL STORAGE UNIT
78 compartments hold drills, taps

Drills, reamers, taps, and other tools can be stored in the 78-compartment Model 181 storage unit which is constructed of heavy gage steel and has gray or green baked enamel finish. The two top shelves have 15 compartments, each 2 3/16 in. wide; the two center shelves, 13 compartments, each 2 9/16 in. wide; and the two bottom shelves have 11 compartments, each 3 in. wide. Dividers are 1½ in. high. Shelves have label holders, turned up to form bin fronts. Unit measures 34⅝ x 33¼ x 16 in. Made by **Alan Wood Steel Co.**, Penco Div., 200 Brower Ave., Oaks, Pa.

▲ For more details circle **NED-3 B9** on enclosed inquiry slip ▲

PLATE HANDLING CLAMPS
securely grip swinging loads



Large, unwieldy steel plates are safely handled with a pair of these horizontal plate clamps. They will effectively grip, hold, and convey swinging, jerking loads. All parts are drop-forged and heat treated. The heavier the plate handled, the greater is the grip or pressure of the clamping member. Made by **Merrill Brothers**, Artic Street, Maspeth, N. Y.

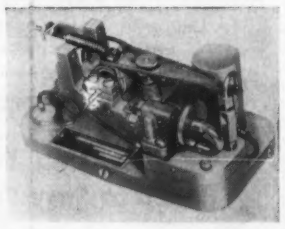
▲ For more details circle **NED-4 B9** on enclosed inquiry slip ▲

COAT RACK
in 12 and 24-coat capacities

Complete with polished hardwood hangers with steel hooks, this double-face coat rack is available in 12 and 24-coat capacity models. Formed square tubular uprights support the cantilever type shelves and skid domes protect the floor. Finish is a harmonizing gray enamel. Conversion package is available to convert current single-face models to double-face units. Made by **Lyon Metal Products, Inc.**, 1 Clark St., Aurora, Ill.

▲ For more details circle **NED-5 B9** on enclosed inquiry slip ▲

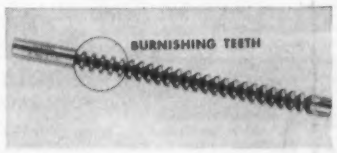
TEMPERATURE TRANSMITTER
has range of −30 to 1200° F



Unaffected by normal plant vibration, the Sensaire temperature transmitter has a thumbscrew adjustment which sets zero over a wide range. Low cost unit has a range of −30 to 1200° F. Further range limits and operational spans can be established in the field as needed. Only the substitution of a different precalibrated and fully compensated thermal system is required. The transmitter incorporates the standard Fulscope type relay and, where desired, the standard Speed-Act unit. Universal mounting bracket permits installation on flat or curved surfaces with various degrees of rotation. Made by **Taylor Instrument Cos.**, 95 Ames St., Rochester 1, N. Y.

▲ For more details circle **NED-6 B9** on enclosed inquiry slip ▲

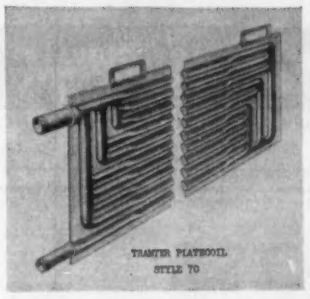
ROUND BROACHES
now provided with burnishing teeth



Burnishing teeth now provided on standard round broaches produce a glassy finish to precision tolerances. The push-type Minute Man broaches, used in the arbor of a hydraulic press, finish to exact size in one pass. They are available in 13 sizes for ¼ through 1-in. round holes. Made by **du Mont Corp.**, Greenfield, Mass.

▲ For more details circle **NED-7 B9** on enclosed inquiry slip ▲

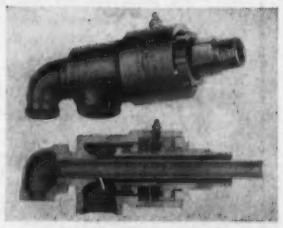
HEAT TRANSFER UNITS
designed for use up to 250 psi



Rapid heat-up time of plating, process, and storage tanks is possible with Multi-Zone Platecoil heat transfer units. Improved heat distribution is achieved by dividing the main feed line that enters the unit. Steam (or other heating or cooling media) is supplied directly to the three horizontal zones of the Platecoil. Number of horizontal passes in each bank depends upon the size of the unit. This arrangement practically eliminates "condensate blocking" of coils and passes. Heat loss is negligible before the steam reaches the middle and lower passes. Platecoils have a 5-to-1 safety factor with 250 psi steam. Sizes up to 22¼ in. wide and 143 in. long are offered in various flat and curved or rolled styles. Made by **Tranter Mfg. Inc.**, Platecoil Div., 737 E. Hazel St., Lansing 9, Mich.

▲ For more details circle **NED-8 B9** on enclosed inquiry slip ▲

ROTARY UNION
handles up to 250-psi pressures



Connection between a stationary supply pipe and revolving machine cylinder, roll, or drum is made with this rotary union which has a low friction mechanical seal and ball bearing construction. Seal is designed so that pressure is automatically increased or decreased in proportion to the fluid pressure of the applications. Heavy Monel metal bellows seal prevents gas or liquid leaks under pressure. Union will handle steam, water, air vacuum, industrial fluids, and gases on applications up to 250 psi and temperatures up to 500° F without adjustments. Pipe sizes from ¼ through 3 in. with right or left hand threads are offered. Type S unit with dual pipe connection for syphon duty is also available. Made by **Perfecting Service Co.**, 332 Atando Ave., Charlotte 6, N. C.

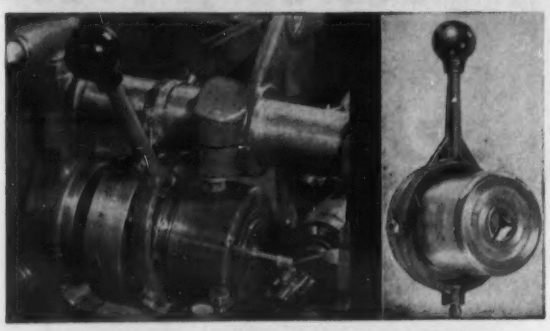
▲ For more details circle **NED-9 B9** on enclosed inquiry slip ▲

SLOW SPEED ATTACHMENT
for 20-in. drill presses

Smooth, high torque power transmission for such common operations as spot facing, reaming, counterboring, core drilling, and cutting wooden plugs is provided by the Slo-Speed attachment for 20-in. Walker-Turner drill presses. With an 1140-rpm motor, the speed range is 70 to 1700 rpm; with a 1725-rpm motor, the range is 105 to 2600 rpm. Five speeds supplied have a ratio of input to output of 4.7:1. It fits machines with No. 2 or 3 Morse taper spindles and is for use with cutting tools having similar shanks. Price is $68.75. Made by **Rockwell Mfg. Co.**, Walker-Turner Div., Dept. 100, 400 N. Lexington Ave., Pittsburgh 8, Pa.

▲ For more details circle **NED-10 B9** on enclosed inquiry slip ▲

ZAGAR COLLET LATHE CHUCKS



Feature NO LENGTHWISE MOVEMENT and many other important advantages

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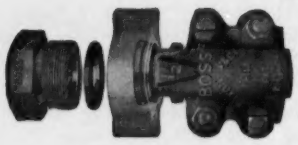

WASHER TYPE FEMALE COUPLING STYLE W-16

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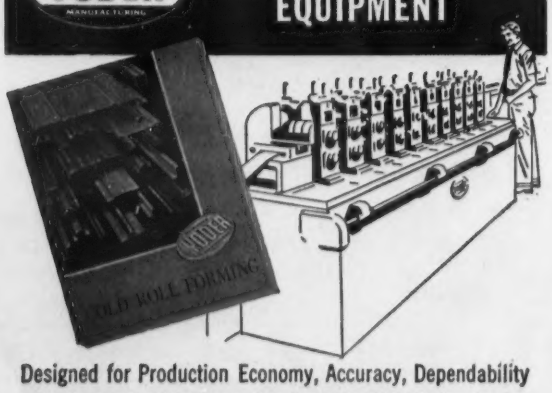
COLD ROLL-FORMING EQUIPMENT

YODER ENGINEERING MANUFACTURING



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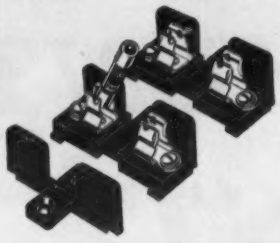
▲ For more details circle NED-13 B9 on enclosed inquiry slip ▲

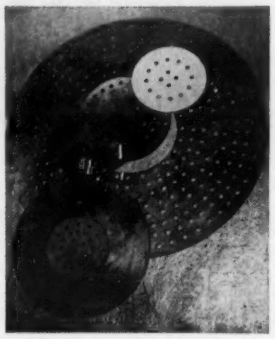
ADD-ON FUSE BLOCKS interlock with one another

Single-pole Add-On fuse blocks can be assembled into a unit block of any number of poles. They interlock by means of a boss that slips into a recess in bottom side of adjacent block. Each unit is locked into place by a single screw. Poles can be added or removed without disconnecting terminal leads on other units. Each fuse can be used as a circuit disconnect since clips permit raising one of the fuse to right angle position. Circuits can be identified by plastic, easy-to-mark strips that snap-lock to the block base. Made by **McGraw-Edison Co.**, Bussmann Mfg. Div., University at Jefferson, St. Louis 7, Mo.



▲ For more details circle NED-14 B9 on enclosed inquiry slip ▲

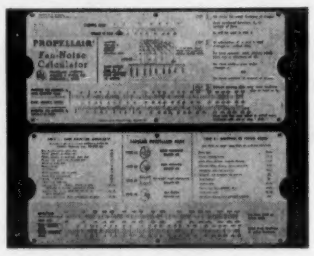
TABLE BLAST PADS extend circular table life



Circular blast cleaning tables can be protected against the blast of abrasive media by Resist-Abrade table blast pads. These pads are designed to reduce maintenance cost to a minimum and have exceptional wearing qualities. They are designed from templates supplied by the customer, or from a kit of materials obtained by the customer from this company. Made by **A.I.C. Engineering Co.**, Box 55421, Uptown Station, Indianapolis, Ind.

▲ For more details circle NED-15 B9 on enclosed inquiry slip ▲

FAN NOISE CALCULATOR uses sone ratings of fans, room size



Calculation of noise increase resulting from addition of fans to a room can be speeded with the Fan-Noise Calculator. It uses the "sones" system of loudness rating developed by the Acoustic Society of America, National Noise Abatement Council, and other groups. A series of acoustical formulas is translated into linear units on the calculator, permitting simple computation of noise levels when given fan sone ratings, room size and construction, and amount of sound insulation used. Available from **Robbins & Myers, Inc.**, Propellair Div., 1345 Lagonda Ave., Springfield 99, Ohio.

▲ For more details circle NED-16 B9 on enclosed inquiry slip ▲

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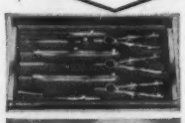

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Quantity Price
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ERECT IMAGE LOW POWER MICROSCOPE

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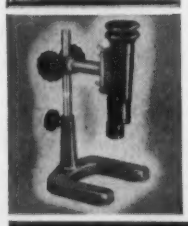

Extremely sturdy with rack and pinion focusing, color corrected optics, turntable microscope body for inclined viewing, three different powers, long working distance under objectives, sufficient eye relief for easy viewing. Made from war surplus optical instrument so that you actually get $80.00 of value. Weighs 4 lbs., 13" high. 10 DAY FREE TRIAL! Accessory objectives available for powers of 15X, 30X, 40X.

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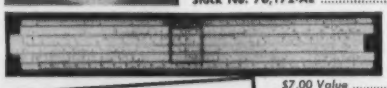

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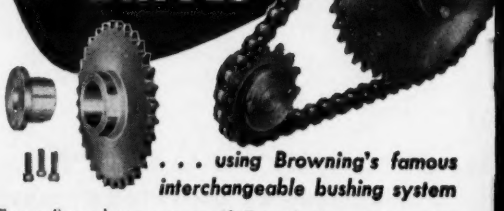

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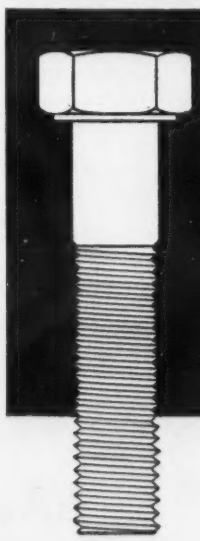

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INSTANT—REVERSING MOTORS

. . . instantly utilize full torque capacity.

Franklin Motors with INST-O-VERSE® apply full power for instant reversing in response to manual or automatically transduced demand.

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LEXCO ENGINEERING & MFG. CORP.

20 W. Chestnut St. • Souderton, Pa.

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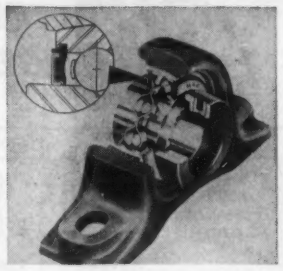
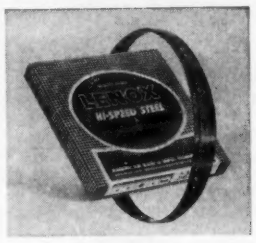
PILLOW BLOCKS
bearings are permanently lubricated



Ball bearings used in these pillow blocks are permanently lubricated at assembly. The Labri-Seal used to retain the lubricant combines the advantages of a rotating flinger, labyrinth seal, and positive contact synthetic rubber seal. Bearing self-adjusts to shaft misalignment and maintains full contact seating in the housing. It is locked on the shaft by a cam action locking collar which engages an eccentric land on the bearing inner ring. Pillow block is available in standard shaft sizes up to 1 15/16 in. Made by **Marlin-Rockwell Corp.**, Jamestown, N. Y.

▲ For more details circle NED-24 B9 on enclosed inquiry slip ▲

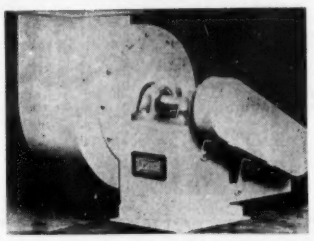
BAND SAW BLADES
standard and hook tooth designs



Tough steel alloys can be cut with Lenox high speed steel band saw blades, designed to take maximum cuts and feeds on high speed machines. They are suited for production work and are available in standard and hook tooth designs in several standard sizes. Made by **American Saw & Mfg. Co.**, Springfield, Mass.

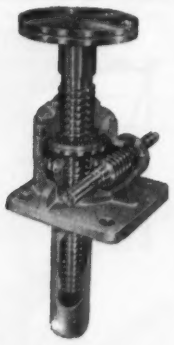
▲ For more details circle NED-25 B9 on enclosed inquiry slip ▲

INDUCED DRAFT FANS
for boilers, handle 800° F gases



Fuel combustion efficiency of hand or mechanically-fired boilers can be increased by equipping them with this induced draft fan. Radiant heat cover between the bearing and the fan housing, together with aluminum heat flinger device, prevents excessive heat radiation. Of welded steel construction, fan will handle combustion gases up to 800° F. Stub stacks can be installed directly on the unit. A manual damper with locking quadrant, or a ball bearing damper for automatic operation are optional. They permit draft regulation without changes in fan speed. Fans with up to 5-hp motors have variable pitch sheaves on the motor shaft, whereas larger motors have fixed drives with speed adjustments made by changing the fan or motor sheave. Made by **Fuller Co.**, Lehigh Fan & Blower Div., Catasauqua, Pa.

▲ For more details circle NED-26 B9 on enclosed inquiry slip ▲



Here is a device which every machinery designer should know about

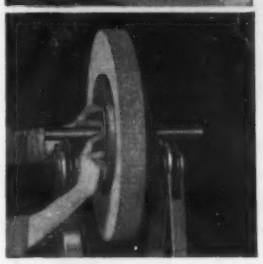
Functioning as parts of machinery and equipment, Duff-Norton Worm Gear Jacks can be used to position loads weighing hundreds of tons accurately and hold them indefinitely without creep. Thousands are in use in presses, conveyors, steel mill equipment, etc.

Available in capacities from 2 to 100 tons, Duff-Norton Worm Gear Jacks can be connected by means of shafting and mitre gear boxes to handle large loads—all jacks will raise in perfect unison. Standard raises go up to 24 inches—greater raises can be furnished upon request.

Write for Bulletin AD-66-N, which gives full details and includes a questionnaire for aid in selecting proper jacks. **Duff-Norton Company, P. O. Box 1889, Pittsburgh 30, Pa.**

▲ For more details circle NED-27 B9 on enclosed inquiry slip ▲

Check balance and runout accurately with Sundstrand accessories



Check Runout Within .0001" Limits on gears, sprockets, pinions, etc. Sundstrand "one-hand control" over all moveable elements leaves other hand free to control rotation of part. Standard bench centers in ten sizes range from 6" x 18" to 24" x 72".

Balance Grinding Wheels, Flywheels, Pulleys, etc., quickly and precisely on any of nine standard sizes of Sundstrand balancing tools. All but No. 5 extra-heavy duty size are portable, can be placed where needed without leveling. Capacities range from 12 to 24,000 lb. No limit on "swings" or distance between centers.

DISTRIBUTORS:
Sundstrand Bench Centers and Balancing Tools offer attractive sales opportunities. Investigate. Details on request.

SUNDSTRAND-American BROACH
DIVISION OF SUNDSTRAND MACHINE TOOL CO.
ANN ARBOR, MICHIGAN

▲ For more details circle NED-28 B9 on enclosed inquiry slip ▲

WIRE ROPE FITTINGS

OPEN WEDGE SOCKETS

the harder the pull the tighter the hold

OPEN WEDGE SOCKETS—especially easy to attach. Simply bend cable around wedge, insert in socket and pull tight. Wedge can be quickly removed with light hammer and drift pin. Sizes for ⅜" to 2" rope. Orders for special sizes receive prompt attention.

CONTINUOUS CABLE CLAMPS

the easy way to attach a load to a line

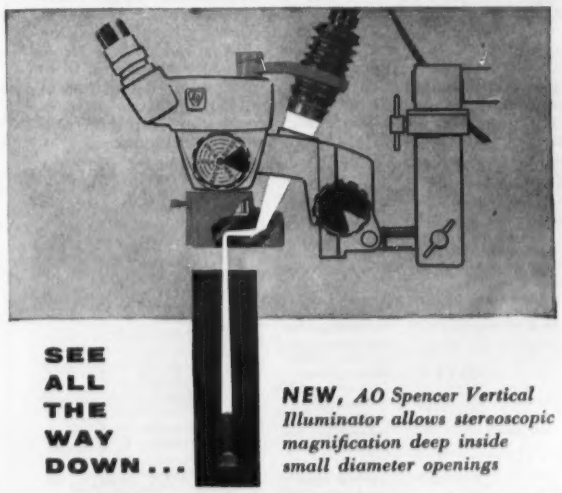
CONTINUOUS CABLE CLAMPS—Quickly attach or remove a load from any place on a continuous cable. Used for car pulling, barge moving, rigging or any job where a load must be connected to the line.

Manufactured for rope sizes from ⅝ to 1¼ inches.

ASK FOR BULLETINS 164 AND CC-2

SAUERMAN BROS., Inc.
646 S. 28th AVENUE, BELLWOOD, ILLINOIS • Linden 4-4892

▲ For more details circle NED-29 B9 on enclosed inquiry slip ▲



SEE ALL THE WAY DOWN . . .

NEW, AO Spencer Vertical Illuminator allows stereoscopic magnification deep inside small diameter openings

The new Vertical Illuminator and the AO Spencer Cycloptic Stereoscopic Microscope make a unique team that can be the answer to your problem whether it's the inspection of detail in small diameter, deep hole borings, or delicate assembly of miniaturized parts where every move is critical.

This low-cost illuminator readily attaches to the Cycloptic to provide efficient, shadowless illumination deep inside small orifices . . . and the Cycloptic delivers realistic, erect, true three-dimensional magnification of the illuminated detail.

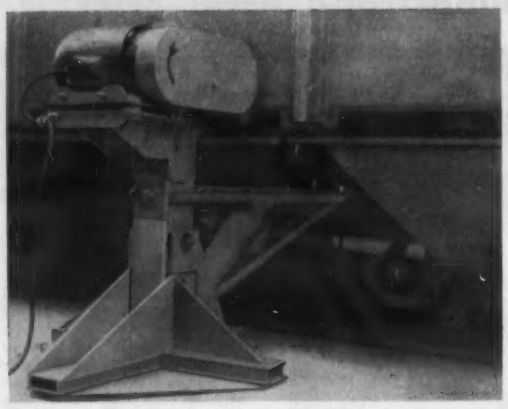
The remarkable long working distance afforded by Cycloptic (up to 7 inches when Illuminator is used with 55 and 50 Series) gives you *plus* advantages . . . permits ample room for large objects or inspection and assembly tools.

Add this unit to your present Cycloptic or ask about low-cost Vertical Illuminator and Cycloptic stereoscopic microscope combinations.

American Optical Company
SPENCER Instrument Division • Buffalo 15, New York

▲ For more details circle NED-30 B9 on enclosed inquiry slip ▲

UNLOAD COVERED HOPPER CARS



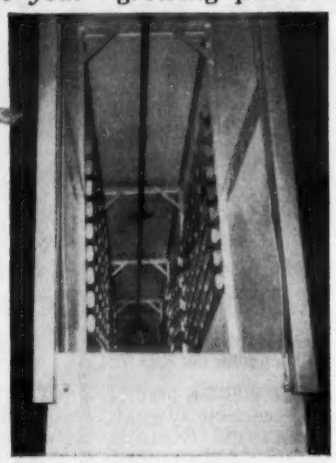
Now you can buy a shaker that does a real job of vibrating bulk materials out of covered hopper cars. The National Model 81 is handled by just one man and it will shake the contents out just as fast as you can take them away.

NATIONAL CONVEYOR & SUPPLY CO.

361 N. HARDING AVE. CHICAGO 24, ILL.

▲ For more details circle NED-31 B9 on enclosed inquiry slip ▲

If heat can cure your "growing pains"



your CHROMALOX Man has the answer

From a cold start, this oven reaches operating temperatures (to 425°F) in about ten minutes. Conveyor speed is adjustable from 2 to 6 feet a minute, and baking time from 5 to 16 minutes.

By installing the oven shown above, a New England metal-working plant recently solved several problems arising from an expanded line of products.

Previously, some of the company's products had been sent out for painting and baking, while the remainder were painted and air dried at the plant. When a new, larger item was added to the product line, neither the company nor the outside firm was equipped to handle the paint baking. After considering the outside charges and delays which had caused them to lose some rush orders, it was decided to install their own oven. They then called in the Chromalox Man for a quick, economical, electrical answer.* Now, all painting and baking is done at home in a 32-foot electric radiant oven, using 42 Chromalox Type RAD Far-Infrared Heaters.

Chromalox Input Controllers accurately regulate baking temperatures for each of three heat zones. With these cycling devices, capacity can be accurately controlled from 4 to 100% of heater capacity. Top or bottom sections of each zone can be shut off to handle varying work sizes.

Chances are your Chromalox Man can help you find answers to *your* production line heating problems.

**For a detailed account of this actual case history, write for Application Report* 403.

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4983

CHROMALOX
Electric Heat
INDUSTRIAL • COMMERCIAL • RESIDENTIAL
EDWIN L. WIEGAND COMPANY
7509 Thomas Boulevard • Pittsburgh 8, Pa.

▲ For more details circle NED-32 B9 on enclosed inquiry slip ▲

NEW EQUIPMENT DIGEST

A PENTON PUBLICATION • PENTON BUILDING, CLEVELAND 13, OHIO

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BPA NBP

FIRE RETARDANT PAINT flat enamel is UL-approved

Applied by brush, roller, or spray gun, a new fire retardant paint offers its highest degree of protection on new or unpainted surfaces. The UL-approved interior flat enamel does not stop fires, but slows down their spreading rate. Applications include stairwells, furnace rooms, plants, offices, and ship bulkheads. Three coats are recommended for optimum results. Seven colors and white are available. Made by E. I. du Pont de Nemours & Co., Wilmington 98, Del.

▲ For more details circle NED-33 B9 on enclosed inquiry slip ▲

Efficient warehousing requires easy, quick product handling, optimum use of space, accurate inventory control. Logan Storage Racks answers all three requirements—and a lot more.

Best of all, now you may specify either rollers or wheels for your Logan Storage Racks. Write today for further information.

LOGAN CO., 215 CABEL ST., LOUISVILLE 6, KY.

Logan Conveyors

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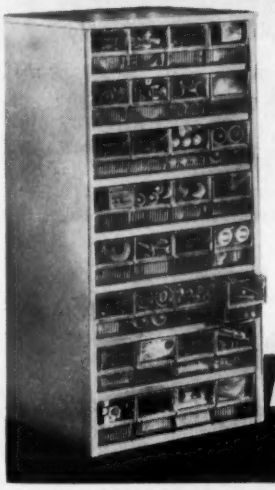
FREE CATALOG "How to Solve SMALL PARTS STORAGE PROBLEMS"



Free 32-page illustrated catalog shows 750 different Cabinet Combinations . . . units from 4 to 128 drawers, 24 to 512 compartments, 11 different drawer sizes.

The neat, efficient way to store small parts in offices, shops, labs, etc. Ideal for handling and display.

Production line prices from $2.98

Ask for catalog AM-ED-2

AKRO-MILS, INC.
P. O. Box 989
Akron 9, Ohio

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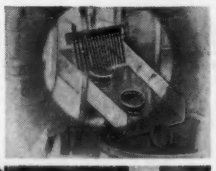
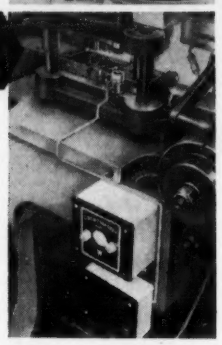


new CIRCUIT-MASTER missing parts detector



INSURES COMPLETE DIE PROTECTION

...only $252.75 complete!

Your expensive dies just can't be damaged when parts fail to eject! The new Circuit Master Missing Parts Detector electronically disengages the clutch of any machine, stopping it before a second piece can cause an overload.

Additional features include the control of: misfeed, buckling, overload and end of material shut-off.

The Missing Parts Detector works on either friction or key clutches, on automatic or manual machines. It's completely automatic insurance for your expensive dies—no controls to set, no adjustments ever!

STOP DIE DAMAGE NOW! *Write, wire or phone today for bulletin and name of nearest representative.*

WINTRISS, INC.
20 Vandam Street, New York 13, N. Y. CHelsea 2-0105

MASTER PRODUCTS W WINTRISS NYC

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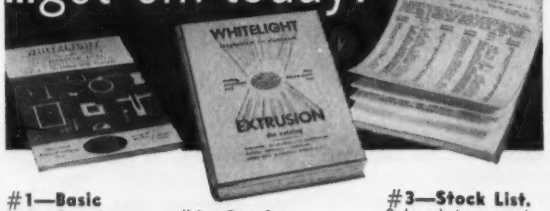
WHITELIGHT MAGNESIUM

3 fact-filled booklets on Whitelight MAGNESIUM ...get 'em today!



#1—Basic Data Brochure
—54 pages of helpful information on properties, uses, working, etc. of WHITELIGHT MAGNESIUM

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with full scale drawings of 1000's of available dies in all shapes: rods, bars, tubes, structurals, solids, hollow & semihollow shapes.

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Order what you need . . . when you need it . . . 10 magnesium alloys . . . 500 sizes. rods, bars, angles, tubes, channels, sheet I-Beams, plate & wire.

Send for your copies NOW! . . . on company letterhead, please.

WHITE METAL ROLLING & STAMPING CORP.
100 Moultrie St., Brooklyn 22, N. Y.
Factories: Brooklyn, N. Y. • Warsaw, Indiana
West Coast Warehouse: 6601 Telegraph Rd., Los Angeles 22, Calif.
One of the World's Largest Producers of Magnesium Alloy Mill & Finished Products

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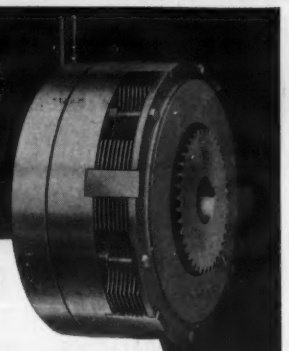
Fawick SC Magnetic Clutches



...are THE clutches for automation!

*fast cyclic rate . . . *large torque capacity in small space . . . *excellent heat dissipation . . . *high efficiency, "wet" or "dry" . . . *top performance in all clutch functions—starting, running, torque limiting, cyclic . . . *simple installation . . . *adaptability to automatic controls.

Available in sizes from 2¼" to 13¼" diameter, torque ratings from 27 inch-pounds to 66,000 inch-pounds. For full information write for Bulletin M-102.

*PROVED ADVANTAGES OF FAWICK MAGNETICS

FAWICK AIRFLEX DIVISION
FAWICK CORPORATION
9919 Clinton Road • Cleveland 11, Ohio
In Canada, Fawick Canada, Ltd., Toronto

FAWICK MAGNETIC

▲ For more details circle NED-38 B9 on enclosed inquiry slip ▲

EXTRA RUGGED
Exclusive one-piece curb with forged ends.

EXTRA LIGHT
1/4 the weight of steel, 1/3 lighter than aluminum.

Reduce Loading Costs WITH NEW B&P Magnesium Dockboards

Lighter, stronger B&P Magnesium dockboards get the job done faster, easier and at less cost. All dockboards are heat treated for stress-relief after welding. B&P offers these advantages—one-piece stringer with forged ends, full-length hand grips, yellow curb markings, crowned contour, beveled edges, safety tread, wide range of sizes for every loading need.

SEND FOR FREE LITERATURE on long-lasting Magnesium dockboards, hand trucks and other mobile handling equipment by B&P.

BROOKS & PERKINS INC.
1950 W. Fort St. • Detroit 16, Mich.
Dealers in Principal Cities MH-21

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1. Power up and power down
2. Convenient control handle
3. Seven-inch lifetime brake
4. Compact gear drive construction
5. Electrical system features extreme ease of accessibility
6. Totally enclosed nickel alloy steel gears
7. Automotive, cantilever-type drive wheel mountings
8. Excellent maneuverability
9. "Flying Saucer" pallet wheels
10. Single-package hydraulic unit

Take it apart...see why this new Palletox "ticks" so well

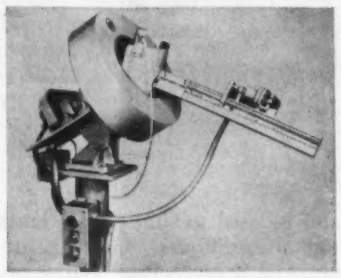
Here's the first really new concept in walkie pallet trucks in years—Barrett's electric Lo-Lift Model PXG. Look at it carefully—inside and out. Then you see why your best buy is Barrett. For *all* the details, write for new Model PXG Palletox Bulletin. No. 587

BARRETT-CRAVENS COMPANY
650 Dundee Road • Northbrook, Illinois
Representatives in All Principal Cities
Canadian Licensee: S. A. Armstrong, Ltd., Toronto, Canada

BARRETT
Materials handling equipment engineered to your job

▲ For more details circle NED-40 B9 on enclosed inquiry slip ▲

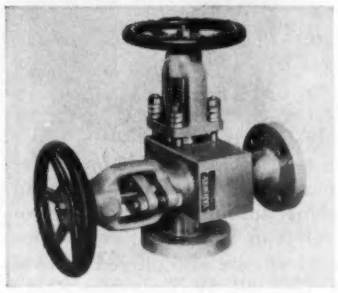
ROTARY PARTS FEEDER delivers 20,000 parts per hour



Continuous oriented and controlled flow of up to 20,000 parts per hour is provided by this rotary parts feeder. Parts are lifted from the bottom of the bowl by hardened cleats on the selector ring and deposited on an inclined discharge track as the hopper rotates. As parts slide down the track they are oriented and directed to the machine being fed. Standard tracks available for simple cylindrical, rectangular, headed, or disc type parts can be arranged to feed one or several machines. Made by **Radio Corporation of America**, Industrial Automation Equipment, 13541 Auburn Ave., Detroit 23, Mich.

▲ For more details circle NED-41 B9 on enclosed inquiry slip ▲

TANDEM BLOW-OFF VALVE for medium pressure service



Basically rated 400 psi, this Yarway unit tandem blow-off valve will handle boiler blow-off pressures up to 665 psi. A forged steel block forms a common body for the welded Stellite seat blowing valve and the seatless sealing valve. They are available with flanged or welding ends, right or left hand assembly. Made by **Yarnall-Waring Co.**, 131 Mermaid Lane, Philadelphia 18, Pa.

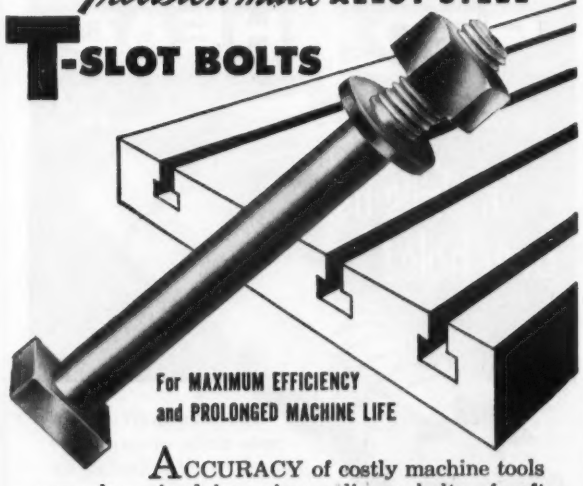
▲ For more details circle NED-42 B9 on enclosed inquiry slip ▲

ON-THE-JOB ASH TRAY mounts on machines & work benches

Inexpensive Sipco Model 5 Dunking Station is suited for use in industrial plants which permit on-the-job smoking. By mounting it on machines or work benches, it minimizes fire hazards and eliminates "time out for a smoke." Model 5 unit uses the same cast aluminum canister as other standard models, except that it has no hinged lid. A coil spring across the top holds the unfinished cigaret. Canister is easily lifted from the mounting bracket for emptying. It can be partly filled with water. Made by **Standard Industrial Products Co.**, Dept. D, 3527 Farmington Rd., Peoria, Ill.

▲ For more details circle NED-43 B9 on enclosed inquiry slip ▲

BOYAR-SCHULTZ
Precision-made ALLOY STEEL
T-SLOT BOLTS



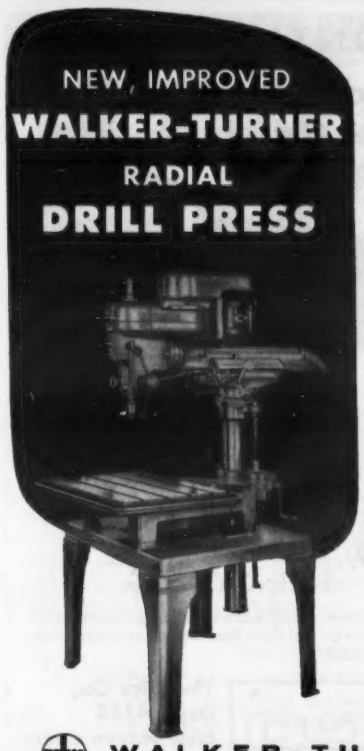
For MAXIMUM EFFICIENCY and PROLONGED MACHINE LIFE

ACCURACY of costly machine tools may be ruined by using ordinary bolts of soft steel. It is low cost insurance to use Boyar-Schultz precision made T-Slot bolts. Made from heat treated, Alloy steel, heads machined at right angle to shank, to present a broad, flat surface to upper surface of T-slots. Class 3 threads do not strip or distort. For best results use Special Nuts and Washers.

BOYAR-SCHULTZ CORPORATION
2030 South 25th Avenue, Dept. F-B, Broadview, Illinois

▲ For more details circle NED-44 B9 on enclosed inquiry slip ▲

NEW, IMPROVED
WALKER-TURNER RADIAL DRILL PRESS



- STRONGER
- MORE VERSATILE
- EASIER TO OPERATE

With its all-new, heavy-duty head assembly, the improved Walker-Turner radial drill press *offers all the ruggedness, versatility and efficiency of larger machine tools costing several times as much.*

Available in 24 models with either 4¼" or 6" spindle travel.

Write for FREE 48-PAGE CATALOG!

WALKER-TURNER
Division of Rockwell Manufacturing Co.
Dept. WB-45 400 N. Lexington Ave., Pittsburgh 8, Pa.

▲ For more details circle NED-45 B9 on enclosed inquiry slip ▲

new from Foxboro!

INDICATING TEMPERATURE TRANSMITTER

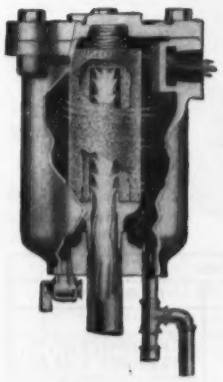
uses any filled thermal system

Here's a brand new economical instrument engineered specifically for the job of indicating *and* transmitting temperature. Compact and lightweight (10 lbs.), its indicating scale and fluorescent red pointer are visible up to 20 feet away. The M/44 is made with standard, performance-proved Foxboro components — withstands corrosive atmospheres. Changing range or type of thermal system can easily be done in your own plant. Ranges from —450 to +1000F. Write today for Bulletin 13-28A. The Foxboro Company, 662 Neponset Ave., Foxboro, Mass.

FOXBORO Instrumentation
REG. U.S. PAT. OFF.

▲ For more details circle NED-46 B9 on enclosed inquiry slip ▲

ADAMS PORO-STONE AIR FILTER, designed to remove oil, water and foreign matter from compressed air lines with minimum pressure drop.



The R. P. Adams Poro-Stone air filter is engineered to efficiently remove entrained oil, water and pipe scale from compressed air lines. Liquid droplets and solids being carried by the gas stream are first removed by centrifugal action in an annular chamber. Secondary filtration is achieved by passing the air or gas stream through a poro-stone unit. An automatic trap can be provided to discharge the residue from the cyclone chamber.

At rated capacity the filters operate at a maximum pressure drop of only ½ lb., thus insuring delivery of line pressure to the point of consumption.

The units require virtually no service or maintenance—thereby insuring continued trouble-free, low cost performance.

ADAMS Poro-Stone air filters are available from stock in sizes to suit your needs. For further information, write today for Bulletin 117, R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, New York. *Advt.*

▲ For more details circle NED-47 B9 on enclosed inquiry slip ▲

HORIZONTAL DOORS:

heavy-duty weathertight

spring-balanced for easy opening!

Choose Bilco doors to replace those ponderous, old-fashioned floor- and sidewalk-access doors. Bilco spring-balanced doors feature built-in drainage, long trouble-free life.

FREE CATALOG

Tells all you need to know about sidewalk and basement doors, roof scuttles, ceiling doors and flush floor doors; measurements, weights, specification data!

Bilco® The Bilco Co., Dept. A162 New Haven Conn.,

HORIZONTAL SPRING-OPERATED DOORS

▲ For more details circle NED-50 B9 on enclosed inquiry slip ▲

NEW SOLENOID VALVES *by Airmatic*

These corrosion-proof valves have only one internal moving part and a completely protected solenoid coil. The coil is fully sealed from air, oil, gas and water . . . and will not overheat on continuous duty. Coils for continuous or intermittent duty, a-c or d-c, are interchangeable.

Life expectancy is many millions of cycles and by renewing the one-piece valve plunger, many millions more can be expected. The plunger can be replaced without disturbing rigid piping.

OPTIONAL DESIGNS

MANUAL OVER-RIDE

MANIFOLD MOUNTING

DISTRIBUTORSHIPS FOR THESE NEW VALVES ARE AVAILABLE

ASK FOR CATALOG
All valve deliveries are made from stock.

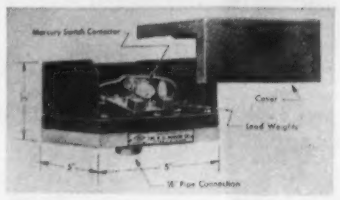
SPECIFICATIONS		
	TWO-WAY	THREE-WAY
CATALOG NO.	91011	91011
PRESSURE RANGE	1/16" ORIFICE: 0-500 PSI 3/16" ORIFICE: 0- 70 PSI	1/8" ORIFICE: 0-300 PSI 3/16" ORIFICE: 0-100 PSI
ORIFICES	1/16" THROUGH 3/16"	1/8" AND 3/16"
VOLTAGE	MOST A-C AND D-C	MOST A-C AND D-C
DUTY	CONTINUOUS	CONTINUOUS
POWER CONSUMPTION	10 - 20 WATTS	10 - 20 WATTS
HEAT RISE	WITHIN UL LIMITS	WITHIN UL LIMITS

AIRMATIC VALVE, Inc.
7313 Associate Avenue • Cleveland 9, Ohio

EVERYTHING UNDER CONTROL
Phone: WOodhine 1-5320 • WESTERN UNION: Airmatic Valve, Inc., FAX, Cleveland, Ohio

▲ For more details circle NED-51 B9 on enclosed inquiry slip ▲

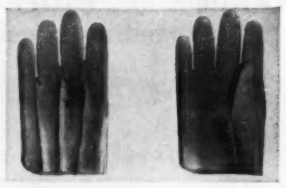
SAFETY AIR FLOW SWITCH
operates when air flow drops



Monitoring of air flow in exhaust or supply ducts of finishing and other processing systems is performed by this improved Airflow safety switch. It can also be used to shut off gas burners of ovens or other equipment in case anything interferes with air supply, and it can actuate alarms or other controls. This 5-amp 115-v normally-open or normally-closed unit is built as standard for ½-in. water gage, but it can be supplied for any suction or pressure to 3 in. Made by **R. C. Mahon Co.**, E. Eight Mile Road, Detroit 34, Mich.

▲ For more details circle NED-52 B9 on enclosed inquiry slip ▲

MULTIPURPOSE GLOVES
have durability, dexterity, comfort



Inspection, handling small parts, and other jobs where careful hand manipulation is required are uses for Permatex gloves, made of vinyl-impregnated cotton. They are light in weight, permanently flexible, liquid repellent, odorless, and washable. Material used in the multipurpose gloves allows the hand to breathe. They combine durability, dexterity, protection, and wearing comfort in ladies' and men's slip-on styles. Safety yellow gloves are also offered. Made by **Advance Glove Mfg. Co.**, 901 W. Lafayette Blvd., Detroit 26, Mich.

▲ For more details circle NED-53 B9 on enclosed inquiry slip ▲

PAINT SPRAY GUNS
in industrial to small-job types

Line of nine paint spray guns includes both bleeder and non-bleeder types, with internal and external mix, as well as pressure and siphon feed. They are made of a lightweight alloy and have balanced-comfort pistol grip handles. Guns are offered for use with compressors, or for regulated tank or air line systems, and for fast-coverage or ultra-fine finishes. Ten-hole fluid tips, interchangeable internal-external mix air caps, and spray width controls are available with most models. Guns operate at 30 to 50 psi. Made by **Campbell-Hausfeld Co.**, 193 Railroad Ave., Harrison, Ohio.

▲ For more details circle NED-54 B9 on enclosed inquiry slip ▲

PHILLIPS RED HEAD

CONCRETE FASTENERS

"it drills its own hole!"

No expensive concrete drills or explosive charges needed. Install by hand or impact hammer. Won't pull out, rust out, melt out or shake loose. Holds more weight than any other; permanent as the concrete itself because of dovetail expansion principle. Write today for a catalog and your free sample

Job site demonstration can be arranged.

THE GENUINE PHILLIPS HAS A RED HEAD

PHILLIPS DRILL COMPANY • MICHIGAN CITY 2, INDIANA

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FIRST!
. . . IN FLEXIBILITY
. . . IN PERFORMANCE
. . . IN QUALITY

For the best in mist coolant Generators . . . specify

MISTIC MIST
GENERATORS
IN MIST COOLING—IT'S THE NOZZLE THAT COUNTS . . . FOR SUPERB PRODUCTION RESULTS!

Direct a controlled volume of mist closer to the work with Mistic Mist . . . even in jig use! The small diameter nozzles, straight, 90° or 45° offset models, plus the holder variations simplify even the most difficult cooling setups. Quality constructed, Mistic Mist generators are available in 1 or 5 gallon, single or multiple outlet units or for complete Central System installations. Only Mistic Mist offers you established quality performance and proven superiority . . . plus unlimited application flexibility and guaranteed results!

Mistic Mist Coolant Mist Generators

Free engineering service is available to help you plan your cooling requirements. Call or write —

AETNA MANUFACTURING CO.
173 SO. YORK STREET, BENSENVILLE, ILLINOIS

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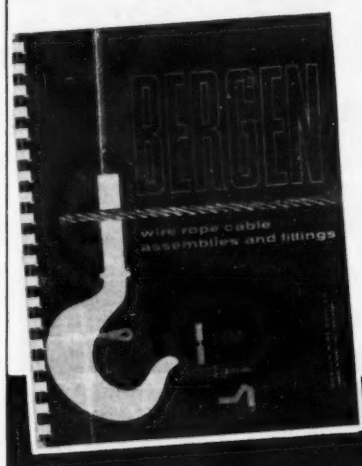
SEND FOR

cable assembly design catalog



Specifications, dimensions, strengths, materials for every wire rope or cable assembly application.

How to meet problems of standard or special fitting design as well as corrosion, abrasion, fatigue, high temperatures and other conditions.

Free design engineering service.

Send for Catalog CA-1.

BERGEN FOR STRENGTH

BERGEN WIRE ROPE COMPANY

SPECIALISTS IN THE UNUSUAL

502 GREGG STREET, LODI, N. J.

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NEW

Enclosed Gearmotor for Vending and Similar Applications

- Speed Range 420 to 1 RPM
- Power range minimum to 40 in. lb.
- Quiet motion—dependable power—service free
- Totally enclosed and lubricated for life
- Compact rigid construction and minimum space
- Complete power range available with 5 interchangeable motor heads and a wound shading pole reversible
- Prompt delivery
- Tell us your requirements

Joins millions of Motoresearch Gearmotors now in use!

Motoresearch also designs and produces high frequency motors, generators, rectifier type power supplies and other Special Electrical Equipment. We invite your inquiries.

MOTORESEARCH COMPANY
1600 JUNCTION AVENUE
RACINE, WISCONSIN

Designers and Manufacturers of
SPECIAL ELECTRICAL EQUIPMENT

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You can't beat Sanding with a

MITY-MIDGET

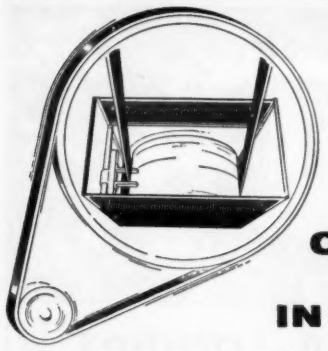
LIGHTWEIGHT, FAST, DEPENDABLE

Weighing only 4 pounds . . . yet so powerful you can't stall it by standing on it . . . this Air Driven, Orbital Action Sander gives a perfect finish, quickly and easily.

See how "Mity-Midget" can save you time and money. Write for a complete catalog today.

NATIONAL-DETROIT, INC., ROCKFORD, ILLINOIS

▲ For more details circle NED-59 B9 on enclosed inquiry slip ▲



Texalon lasts longer, works better. Bounces without stretch. No belt pound because hooks and lacings are eliminated. Belt widths up to 24".

CHANGE BELTS IN MINUTES

Texalon, the new all-synthetic belting by Rhoads, is easily made endless in minutes on the machine by your own maintenance personnel. Eliminates shutdowns for shortening. Replaces leather, rubber, and woven endless belting — for power transmission, carrier tapes, and conveyor belting.

Find out how Texalon cuts belting costs, improves performance. Give us a few facts about your application, or write for bulletin to J. E. Rhoads & Sons, Wilmington 99, Delaware.

Typical Texalon Application

High-Speed Grinders . . . Replaced woven endless belts which lasted three weeks. Texalon still in service after nine weeks — from motor to jack shaft, and jack shaft to spindles.

RHOADS

Where the Job Selects the Belt . . . Since 1702

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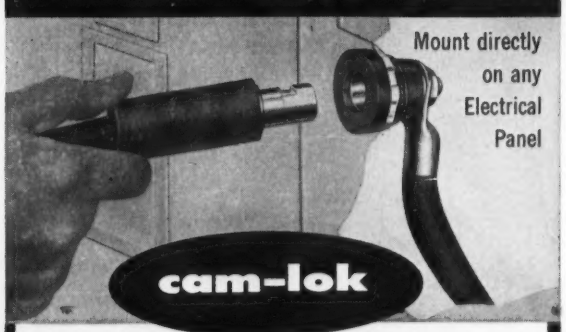
New Hi-Impact Plastic Insulated Panel Receptacles and Mating Plugs



Cam-Lok self-insulated Receptacles mount with standard electrical lock-nuts on *any* metal panel, *without* costly, special insulation. Affords "dead front" protection and positive full-power connections. Plugs lock tight, release quickly. Eliminates special insulated panels on your products and reduces assembly time.

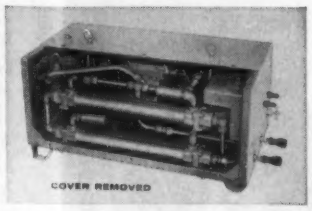
Write today for new Bulletin #301 on the complete line.

cam-lok DIVISION

EMPIRE PRODUCTS, INC.
P.O. Box E-98
Cincinnati 36, Ohio

▲ For more details circle NED-61 B9 on enclosed inquiry slip ▲

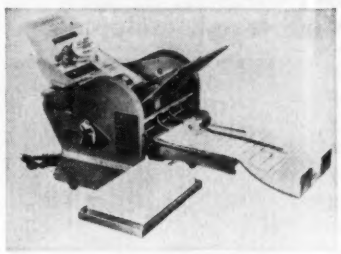
HYDRAULIC POWER PACK
air-operated unit is rated 3.5 gpm



Variable volume characteristics of the Pack-Horse hydraulic power unit enable it to maintain a desired pressure without operating during periods of no demand, yet give instantaneous full pressure when needed. Air-operated, portable unit can be used as a standby power source. It incorporates a heat exchanger and necessary safety and control features. Connected to any plant compressed air line, the 31 x 16 x 15 in. unit has a capacity up to 3.5 gpm and develops pressures to 3000 psi. Another model develops 6000 psi. Made by **M. B. Sturgis, Inc.**, 601 S. Taylor Ave., St. Louis 10, Mo.

▲ For more details circle NED-62 B9 on enclosed inquiry slip ▲

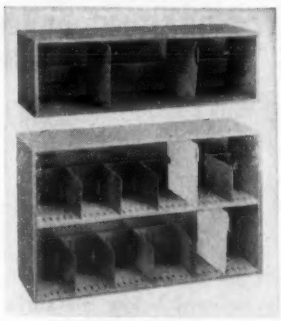
OFFICE FORM FOLDER
handles 7200 sheets per hour



Sheets up to 9 x 14 in. are fed, folded, and delivered at speeds up to 7200 pieces per hour by the Fold-Master. A single lever sets up the machine to feed any thickness from 12 to 100-lb stock, or up to five stapled sheets. Unit will handle most basic single and double parallel folding needs of offices, small printing plants, or duplicator operations. A standard model for continuous folding and a light-duty unit for intermittent folding are offered. Made by **Challenge Machinery Co.**, 1943 Thomas St., Grand Haven, Mich.

▲ For more details circle NED-63 B9 on enclosed inquiry slip ▲

SHELF FILE UNITS
have removable steel dividers



One and two-shelf units with 35 filing inches per shelf are available in these shelf file units for active and semiactive records. Made of heavy gage steel, they have sides, back, top, and reinforced shelves which are slotted on 1-in. centers for removable steel dividers. One divider is furnished with each shelf. A full-width back bar is provided for hook type file guides. Interlocking units can be built to any height. Made by **Dolin Metal Products, Inc.**, 315 Lexington Ave., Brooklyn 16, N. Y.

▲ For more details circle NED-64 B9 on enclosed inquiry slip ▲

EXPLOSION PROOF SOLENOIDS AND SOLENOID OPERATORS

FX-326 SOLENOID
FX-300 LINE
EXPLOSION PROOF
SOLENOIDS

R2DX-326
RDX-300 LINE

The FX-300 explosion proof solenoids and the RDX-300 explosion proof solenoid operators have a variable stroke. For the standard models at minimum stroke, the capacity at 85% voltage ranges from 8 lbs. at 0.47" stroke to 300 lbs. at 1.67" stroke. At maximum stroke, the capacity ranges from 3 lbs. at 1.25" stroke to 100 lbs. at 5" stroke.

By the use of external levers longer than the standard ones, the maximum stroke can be increased with corresponding decrease in pull.

For external levers twice as long as the standard ones, the capacity at maximum stroke ranges from 1.5 lbs. at 2.5" to 50 lbs. at 10". Other combinations are possible. Ask for Bulletins EE-191 and EE-193 or our complete catalog. See our catalog in Sweet's Catalog Service. There is a Trombetta solenoid for every imaginable requirement.

TROMBETTA SOLENOID CORP.
329 N. MILWAUKEE ST. • MILWAUKEE, WIS.

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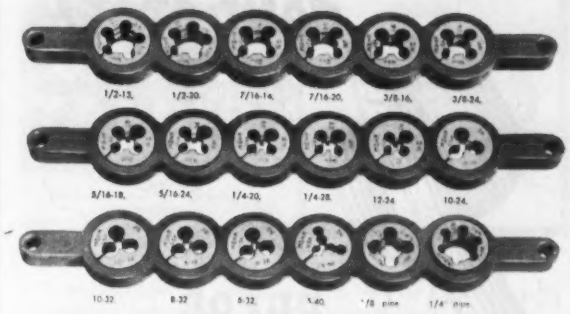
NEW TIME-SAVER TOOL



THIS NEW TOOL will save money in any shop, as it makes threading simple and quick. A precision made tool that is ready to cut 18 different size threads on any kind of lathe, on a drill press or at the vise, and it gives the shop control of these small tools.

THREE PRECISION MADE HOLDERS with 18 high grade adjustable dies, sizes shown above . . . **$39.00**
All orders sent on a 10-day approval basis.

ORDER DIRECT

WRITE for additional, FREE information on the many time and money-saving applications of this new threading tool.

MOHR TOOL & MFG. CO., Box 63-G Maywood, Ill.

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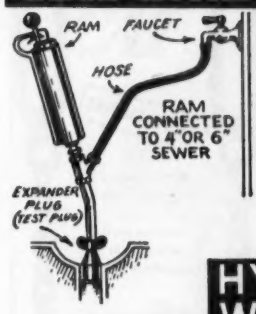
CLEARS CLOGGED DRAINS in Seconds!



The ideal plumbing service tool. Can pay for itself in one application!

Smashes through the most stubborn blockages, then flushes clean — all in one operation!

Comes equipped with self-contained manual compressor (can charge Ram to 100 lbs. in 30 seconds!) and drain adaptors in 6 sizes!

HYDRAULIC WATER RAM

Anyone can operate it! Thousands already in use, have saved *millions* of dollars in industry and institutions. Why lose time, suffer inconvenience, waste dollars needlessly on either completely blocked or slow-moving sewers, drains, fixtures? The HYDRAULIC WATER RAM clears severest stoppages with SPLIT-SECOND HYDROSTATIC IMPACT! . . . Shatters blockage, then flushes clean. No snakes, chemicals, cables. No pushing through. Works perfectly, *vent or no vent!* Nothing to wear out. You risk nothing on our 30 day free trial offer, at our expense. Write for details.

Works perfectly with all clogged fixtures, toilets, sinks, urinals, etc. Equipped with 4" rubber cone, ideal for toilets, *plus* set of 5 tapered adaptor plugs for other drains or sewers.

Write for Information, Prices, Free Trial Offer — Today!

HYDRAULIC MANUFACTURING CO.
214 INDUSTRIAL HEIGHTS KIEL, WISCONSIN

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NEW *from* **SEALMASTER**®

QUALITY PERFORMANCE ECONOMY

The "LP" Pillow Block

- Precision self-aligning one-piece unit. No extra assembly costs for you.
- Malleable housing provides maximum strength with light weight.
- Permanently sealed—pre-lubricated with high grade lubricant.
- Nothing of comparable value in low price field.

WRITE FOR BULLETIN 1058

"L" & "SL" BEARINGS

SEALMASTER

BEARING DIVISION
STEPHENS-ADAMSON MFG. CO.
12 RIDGEWAY AVENUE
AURORA, ILLINOIS

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Your insides feel like a SAND STORM ?

YOU NEED A

DUPOR AUTOMATIC

Water-Cooled Respirator

Sponge filter saturated in cool, clear water provides moist air for comfortable breathing. Ideal protection against dust, fumes, smoke, paint spray. Full panorama visibility. Can be worn with goggles or glasses. Work refreshed, order a water-conditioned respirator today! Sample, $2.25 postpaid.

H. S. COVER, Dept. 205
South Bend 14, Indiana
"Respirators for Industry since 1894"

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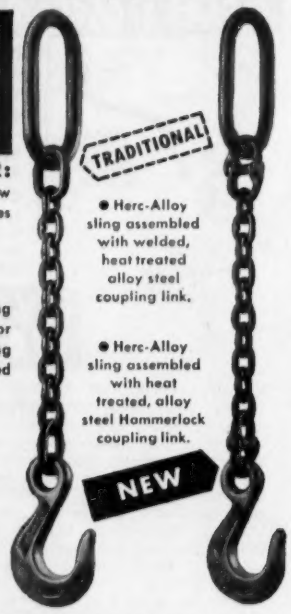
HERC-ALLOY ...the original alloy steel chain

TO SERVE YOU BETTER:
Herc-Alloy chain assemblies can now be ordered with either of two types of coupling links.

Hammerlok®
the "do-it-yourself" reusable coupling link that enables you to assemble or rebuild your own Herc-Alloy sling chains with all components furnished by your local distributor.



CALL YOUR CM CHAIN DISTRIBUTOR or write for helpful literature on alloy chain assembly, care, use and inspection.

CM HOISTS AND CHAIN

COLUMBUS McKINNON CHAIN CORPORATION
TONAWANDA, NEW YORK
Regional Offices:
NEW YORK • CHICAGO • CLEVELAND
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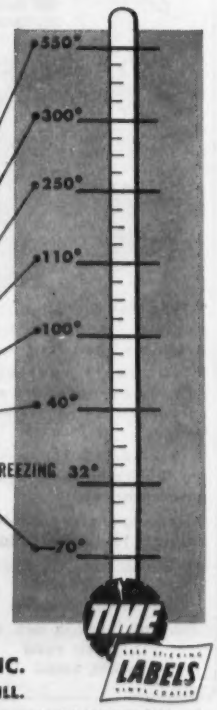
TIME HI-TEMP TAPES

+550° to —70° F



TIME HI-TEMP TAPES are remarkably exposure resistant to normal or extreme atmospheric conditions even when subjected to testing equipment simulating these effects.

Ideally suited for testing in
- OVENS
- STERILIZERS
- AUTOCLAVES
- INCUBATORS
- WATER BATHS
- REFRIGERATORS
- SUB-ZERO CABINETS

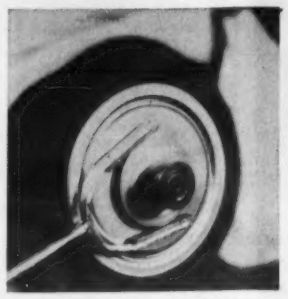
TIME HI-TEMP TAPES are completely unaffected by heat, steam, cold or freezing temperatures, acids or alkalies, moisture or oxidation.

Can be imprinted with your message. For sample and prices write to Dept. 59I.

PROFESSIONAL TAPE CO., INC.
355 BURLINGTON RD. • RIVERSIDE, ILL.

▲ For more details circle NED-71 B9 on enclosed inquiry slip ▲

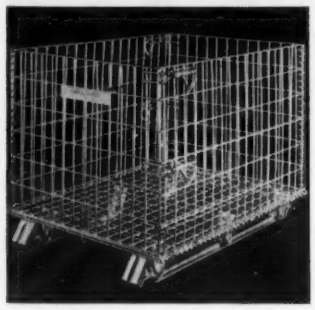
POLISHING HEAD
has abrasive feed mechanism



Thirty-two models of Vonnegut brush - backed polishing heads are available with a semiautomatic abrasive feed mechanism. The 500 lineal inches of abrasive, coiled inside the head, may be fed out without stopping or slowing down the rotation of the head. Pressure is merely applied to an external ring by a simple tool. A built-in safety device prevents the emergence of more than the proper amount. Feed device is optional and may be factory-installed on new heads, or purchased for any Vonnegut brush head in use. Made by **Grinding & Polishing Machinery Corp.**, 2530 Winthrop Ave., Indianapolis 5, Ind.

▲ For more details circle NED-72 B9 on enclosed inquiry slip ▲

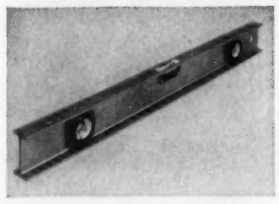
LIGHT DUTY CONTAINER
for truck or air freight shipping



Having capacity for handling materials up to 1000 lb, light duty Lo-Tare Cargotainer is self-cleaning and fully collapsible. Weighing only 82 lb, it is adaptable for truck and air freight shipments with a minimum of tare weight. It measures 28 in. wide, 36 in. long, and 24 in. high. Sides and ends are 2 x 4-in. No. 2/2-gage welded wire. It has sled type runners and 2 x 2-in. mesh welded wire deck. It can be moved by floor-sledding or with a fork lift truck. Cost is under $28. Made by **Tri-State Engineering Co.**, Cargotainer Div., 325 W. Beau St., Washington, Pa.

▲ For more details circle NED-73 B9 on enclosed inquiry slip ▲

TOP-READING LEVEL
made of extruded magnesium



Placement of the "top-reading" dial on the 18-in. Du-Rite level makes it easy to read from both top and sides, even in poor light. The large vial is replaceable and adjustable, and is slightly recessed below the surface for taking accurate readings against structural members, joists, etc. Body of the low cost level is extruded magnesium. Made by **J. H. Scharf Mfg. Co.**, 6120 Binney St., Omaha 4, Nebr.

▲ For more details circle NED-74 B9 on enclosed inquiry slip ▲

HOW TO CUT COSTS with BELT CONVEYORS

new catalog 80 tells how...

GET YOUR COPY TODAY!

Learn how you can save valuable floor space...cut maintenance costs ...by using BUSCHMAN Light-to-Medium Belt Conveyor Stock Components arranged to your exact requirements. Write for "Catalog 80" today!

Every Way Better C-351-EWB
THE E. W. BUSCHMAN CO.
4482 Clifton Avenue Cincinnati 32, Ohio

E W B CONVEYORS FOR EVERY INDUSTRY

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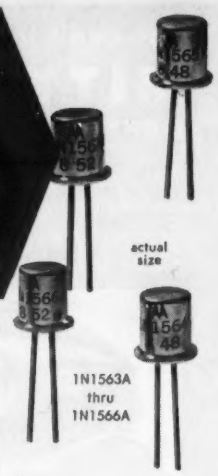
NEW HIGH-QUALITY SILICON RECTIFIERS from MOTOROLA



OUTSTANDING FEATURES:
Peak Inverse Voltages of 100, 200, 300, and 400 are available. ●Low back current at high temperature . . . 150μa maximum at 150°C. ●High surge current capacity. . .70 amps at 25°C. ●Low forward voltage drop. ●Operating temperature range −65°C to 175°C. ●Intended for applications, such as magnetic amplifiers, requiring high rectification ratios at high temperatures. ●Hermetically sealed and constructed to meet military environmental conditions. ●Single-ended package for efficient printed circuit or socket mounting. ●No heat sink required. ●Controlled processes assure high reliability ...long life.

FOR COMPLETE TECHNICAL INFORMATION and IMMEDIATE DELIVERY contact the following distributors: **BOSTON** Cramer Electronics, Inc.; **CAMDEN** General Radio Supply; **CHICAGO** Allied Radio, Inc., Newark Electric Co.; **JAMAICA, N. Y.** Radio-Wire-Television (Lafayette Radio); **LOS ANGELES** Kierulff Electronics, Inc.; **NEW YORK** Milgray Electronics, Inc., Radio-Wire-Television (Lafayette Radio); **WASHINGTON, D. C.** Electronic Industrial Sales.

REGIONAL OFFICES
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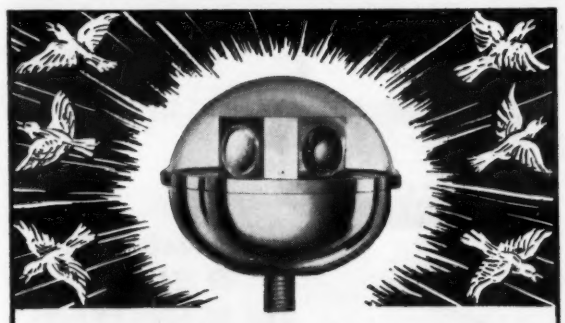
CHICAGO 44, ILLINOIS 4900 West Flournoy Street ESterbrook 9-5200
HOLLYWOOD 28, CALIFORNIA 6555 Sunset Boulevard HOllywood 5-3250

"DEPENDABLE QUALITY—IN QUANTITY"
MOTOROLA SEMICONDUCTORS

MOTOROLA INC., 5005 E. McDOWELL, PHOENIX, ARIZONA

▲ For more details circle NED-76 B9 on enclosed inquiry slip ▲



It's for the BIRDS!

STOP COSTLY WAREHOUSE DAMAGE...
Flash the MARK VIII Bird Eliminator

Now, bird damage so expensive to packaged goods, sheet steel, machinery, grain and other merchandise stocked inside warehouses can be eliminated! This light covers 360° like an airplane beacon with dual colored beams at the rate of 200 a minute. The roving rays continuously disturb the birds, interrupting their feeding and nesting to the extent that they do not remain. Lifetime vitreous enameled housing can't corrode. Operates on 115-120 V, is easily installed and has a 2000-hour bulb.

Get the Facts—Write TODAY!

TRIPPE MANUFACTURING CO.
133 N. Jefferson, Dept. F-3, Chicago 6, Ill.

▲ For more details circle NED-77 B9 on enclosed inquiry slip ▲

NOW! at the LOWEST price in history
International Hand Boxer

the MODERN Way to Close Cartons — By Stapling — from the Outside After They're Filled

Speed! Push the handle — the carton is closed and ready for shipment! No drying time to tie up production.
Economy! No wasted material . . . no wasted set-up space. Fill, staple — and ship!
Security! International-stapled cartons stay closed. Humidity or humanity — they're pop-proof, pilfer-proof!
Flexibility! Portable. Carry it to the carton, rather than the carton to it. Use it right in your production area, as regular or overload equipment.

WRITE for Illustrated Literature

INTERNATIONAL "Gold Crown" ISM

International Staplers
INTERNATIONAL STAPLE & MACHINE COMPANY
Originators of Carton Closing Staplers
P. O. Box 270 Herrin, Illinois

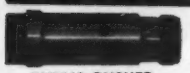
▲ For more details circle NED-78 B9 on enclosed inquiry slip ▲

Hold Everything!

That's what Modern has been doing with Collets—Pushers—Tubes,—for over Three and one Half Decades.

Progressiveness, along with Experience over the years, has brought about a most reliable and dependable source—"Modern"!

Finished Collets, Pushers, Tubes, Master and Pads are carried in stock,—Available for Immediate Delivery.



BURNS PUSHER
The "Burns" Pusher handles stock without Scratching or Friction;—Also an excellent pusher for Hot Rolled Steel.

DOUBLE SAW TOOTH SERRATED COLLET
Modern Collets are available in all types and sizes for ALL screw machines.

MODERN DUAL-GRIP PUSHERS
for Stock Saving.

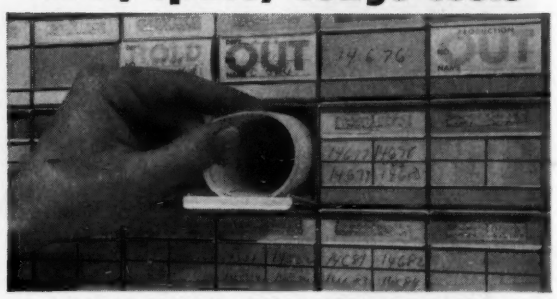
PUSHER AND COLLET TUBES FOR ALL SCREW MACHINES

Representatives in all strategic areas.
Phone or write for stock list of finished items—available for immediate delivery.

MODERN COLLET AND MACHINE COMPANY
401 Salliotte St. • Ecorse (Detroit) 29, Mich.

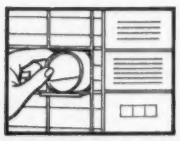
▲ For more details circle **NED-79 B9** on enclosed inquiry slip ▲

HP roll drawing files—brand new way to cut unit, space, usage costs



FREE BOOK SHOWS HOW

you can slash filing costs with individual HP files, which interlock to form complete assemblies. Each HP file is self-indexed, dustproof, fire and water resistant—holds 1 to 30 drawings of any length. Sturdy HP assemblies are quickly installed, dismantled, moved—stack to ceiling, around obstacles, with other files. For complete HP details, write—



Hamilton-Pack

interlock roll record files

HAMILTON MANUFACTURING CO., TWO RIVERS, WISCONSIN

▲ For more details circle **NED-80 B9** on enclosed inquiry slip ▲

REPUBLIC Steel Lockers

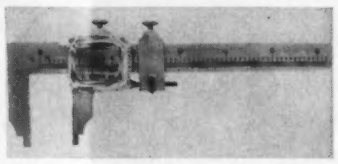
BONDERIZED for "He-Man" Service

Republic Steel Lockers are Bonderized for "he-man" service. This Republic feature provides a superior base for the baked enamel finish . . . protects against rust and corrosion . . . confines damage due to bumps, scratches, and abrasion of every day service to the site of the injury . . . reduces maintenance costs . . . helps build employee morale. Call your Republic representative, or write for details.

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

▲ For more details circle **NED-81 B9** on enclosed inquiry slip ▲

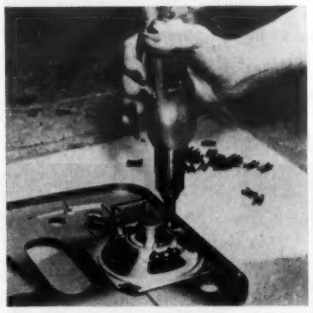
VERNIER MAGNIFIER magnetically attached to scales



Clear, sharp enlargement of metal scale lines results from use of this vernier magnifier by machinists, engineers, and toolmakers. It has a clear plastic body which admits available room light. Two permanent Alnico magnets in the base hold it on metal scales. Price is $2.50. Made by **Bausch & Lomb Optical Co.**, 635 St. Paul St., Rochester 2, N. Y.

▲ For more details circle **NED-82 B9** on enclosed inquiry slip ▲

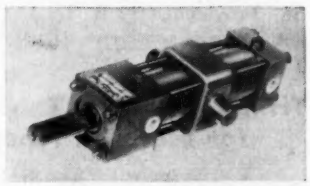
AIR HAMMER attaches "push-on" fasteners



Pal Nuts, Speed Nuts, and other push-on type fasteners are rapidly attached with the Model SP-900B lightweight air hammer. It can be operated by assembly personnel for long periods without tiring. Tool weighs 20 oz, uses only 6.5 cfm of air at 90 psi, and has a metering trigger for operator control. Pistol grip and straight handles are offered. Made by **Superior Pneumatic & Mfg. Inc.**, 4758 Warner Rd., Cleveland 25, Ohio.

▲ For more details circle **NED-83 B9** on enclosed inquiry slip ▲

AIR & HYDRAULIC CYLINDERS trunnion mounted units rated 200-psi air, 1000-psi hydraulic



Solid, one-piece trunnion in which this heavy-duty air and hydraulic cylinder is supported can be positioned by four threaded cylinder tie rods. Loosening and rotating these rods locates the trunnion as desired. Cylinders are built to major automotive and JIC standards with pressure ratings of 200 psi air and 1000 psi hydraulic.

Nine bore sizes range from 1½ to 8 in., with strokes to specifications. All models are offered noncushioned, cushioned blind or rod end, or cushioned both ends, in flange (blind or rod end), clevis, foot, and adjustable trunnion mountings. Piston and cartridge-retained rod seals have a −20 to 150° F operating range. Special high or low temperature seals and piston ring construction for hydraulic cylinders are optional. Made by **S-P Mfg. Corp.**, 30201 Aurora Rd., Solon, Ohio.

▲ For more details circle **NED-84 B9** on enclosed inquiry slip ▲

EASY TO LOAD...EASY TO UNLOAD

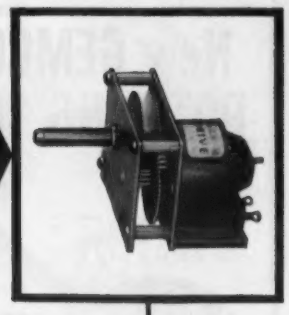
Republic Wedge-Lock Storage Units

Here's shelving designed for the heavyweights—easy to load, unload from either side. And here's why: the heavier the load, the tighter the grip because Wedge-Lock construction includes a post that will not bend, a reinforced shelf that does not sag, and a concealed sway-proof joint. Unlimited shelf arrangements. Let Republic Storage Engineering specialists help you plan. Write today.

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

▲ For more details circle **NED-85 B9** on enclosed inquiry slip ▲

LOW-COST GEAR TRAINS



SMALL — LIGHT-WEIGHT
STURDY
and for almost
ANY SPEED RATIO

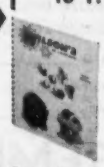
Manufacturers of moving displays, vending machines, turntables, instruments, scientific devices and many other items can now purchase standard or adapted gear trains for small motor operation with reduction ratios up to 1,334,838 to 1 — with little or no tooling costs.

Six standard frames — 336 styles — with steel frames, gears and shafts, brass pinions, shafts of required length and 3 types of bearings. Precision made, smooth running with minimum backlash. Complete line of motors available. And if your product requires a special gear train, we can produce it economically.

6 Standard Frames
336 Styles
RATIOS Up To More Than 1,000,000 to 1.

FREE TO ENGINEERS

Write for book showing styles, detailing dimensions, reduction ratios, motor voltages, quantity prices.



Wilson's of Cleveland
425 Lakeside Ave. N. W., Cleveland 13, Ohio
Specialists in Small Mechanical and Electrical Components

▲ For more details circle **NED-86 B9** on enclosed inquiry slip ▲

CM Lodestar electric hoist

LODESTAR FEATURES INCLUDE:

- Safe, heavy duty performance
- Self-adjusting magnetic brake
- Ultra-modern electric braking
- CM-ALLOY flexible link chain

NEW...Larger capacity and higher speed models in 1/2, 1 and 2 tons for faster, lower cost materials handling.

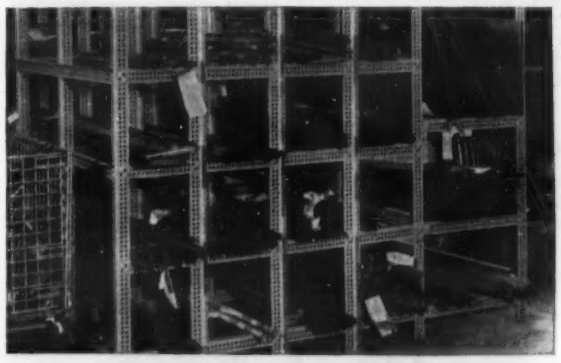
NOW...Greater selection from a complete range of capacities and speeds...1/8 to 2 tons and 8 to 60 fpm.

REQUEST CATALOG AND NAME OF LOCAL STOCKING DISTRIBUTOR

CM HOISTS

CHISHOLM-MOORE HOIST DIVISION
Columbus McKinnon Chain Corporation
TONAWANDA, N. Y.
NEW YORK • CHICAGO • CLEVELAND
In Canada:
McKinnon Columbus Chain Ltd., St. Catharines, Ont.

▲ For more details circle **NED-87 B9** on enclosed inquiry slip ▲



Republic METAL LUMBER

offers unlimited applications

Here's a new steel building material with more framing-erection conveniences than common lumber. New, Republic slotted-angle METAL LUMBER® saves time, space, and money in building catwalks, storage racks, and other special storage facilities. Republic carries complete stocks in field warehouses for immediate shipment. Call Republic for catalog ideas. Or, write today.

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

▲ For more details circle **NED-88 B9** on enclosed inquiry slip ▲

New GEMCO ROTATING CAM LIMIT SWITCH

PRECISION CAM ADJUSTMENT WITH A SCREW DRIVER . . . IN SECONDS!

One type cam . . . no special cam lobes required.

Snap Action Switches, N. O. and N. C.—electrically separated

2 through 12 circuits. Available in NEMA 1, 4, 5, 7, 9 and 12 enclosures.

Please send Bulletin 558 for complete story of new Gemco Rotating Cam Limit Switches.

NAME_____

COMPANY_____

CITY_____ ZONE_____ STATE_____

GEMCO ELECTRIC COMPANY
25685 West Eight Mile, Detroit 40, Mich.

▲ For more details circle NED-89 B9 on enclosed inquiry slip ▲

GET THIS FREE GROUTING GUIDE

. . . before you Grout another piece of heavy equipment

Send for this *free* grouting guide which clearly illustrates 11 common machinery settings, methods of grouting and forming, and hot and cold weather grouting. Discussion covers proper mixing and placing of grout, reasons for using prepared, non-shrink grout, etc.

DIVISION OF AMERICAN-MARIETTA COMPANY
the MASTER BUILDERS co.
CLEVELAND 3, OHIO TORONTO 9, ONTARIO

▲ For more details circle NED-90 B9 on enclosed inquiry slip ▲

Here's a 12 foot conveyor stacking Wheaties 16 feet high!

Swivels in and out of narrow aisles.

We can help solve your problem too . . . May we tell you more?

NEW LONDON ENGINEERING CO.
DEPT. NED NEW LONDON, WISCONSIN

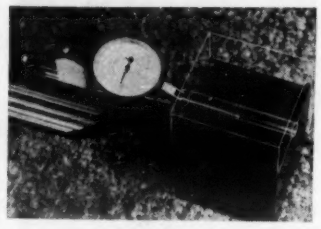
▲ For more details circle NED-91 B9 on enclosed inquiry slip ▲

STAINLESS RETAINING RINGS resist corrosion at up to 1000° F

In addition to spring steel, aluminum, beryllium copper, phosphor bronze, and 420 stainless steel, Truarc retaining rings are now available in a high-strength, precipitation hardening stainless steel. This Armco Type HP 15-7 Mo alloy provides unusual corrosion resistance at up to 1000° F and is expected to be used for rings installed in food machinery, beverage dispensers, photo processing equipment, aircraft and missile parts, and nuclear reactor components. It has corrosion resistance similar to the 300 stainless steels and may also be hardened to provide spring characteristics. Made by **Waldes Kohinoor, Inc.**, 47-16 Austel Place, Long Island City 1, N. Y.

▲ For more details circle NED-92 B9 on enclosed inquiry slip ▲

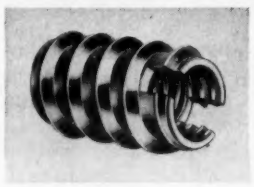
CONTACT TEST INDICATORS for deep hole exploration



Long range and high magnification are features of four new Series L Testmaster test indicators. They have extra long contacts for deep hole exploration in jig borer and surface plate applications. The 0.080-in. ball tip contacts are either 1.446 or 1.497 in. long, and are graduated in 0.0005-in. increments. Total range is 0.080 in. (eight revolutions). Regular or larger 1½-in. diameter dials are offered on the indicators, which have integral dovetails and can be used with holding attachments for Series M Testmasters. Made by **Federal Products Corp.**, 1144 Eddy St., Providence 1, R. I.

▲ For more details circle NED-93 B9 on enclosed inquiry slip ▲

THREADED INSERT for use in all types of wood



Strong female threads in such wooden assemblies as access panels, hatch covers, and furniture are provided by the Series W Tap-Lok insert. It is suited for applications where repeated assembly and disassembly are factors. Made of brass, the insert has widely-spaced wood screw threads and is piloted for easy starting in wood. Internal threads are of standard machine sizes. Inserts are made in sizes from No. 4 through ⅜ in. in coarse and fine series threads by **Groov-Pin Corp.**, 1125 Hendricks Causeway, Ridgefield, N. J.

▲ For more details circle NED-94 B9 on enclosed inquiry slip ▲

MRC 7000-P SERIES
heavy-duty, angular-contact
BALL BEARINGS

Send for FORM 1548 listing sizes and capacity

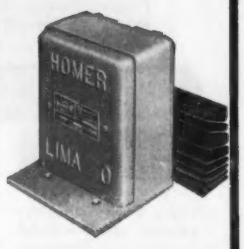
MARLIN-ROCKWELL CORPORATION
Jamestown, N. Y.

MRC BALL AND ROLLER *bearings*

▲ For more details circle NED-95 B9 on enclosed inquiry slip ▲

2 WAYS TO REDUCE COSTS

USE HOMER MAGNETIC SHEET SEPARATORS . . .



To speed handling of round, square, irregular or nested steel shapes in shearing, pressing or other production operations. Automatically separate stacks of oily, polished, enameled or painted sheets without prying, scratching or marring the surfaces.

WRITE FOR BULLETIN SS-210

USE HOMER MAGNETIC SWEEPERS . . .

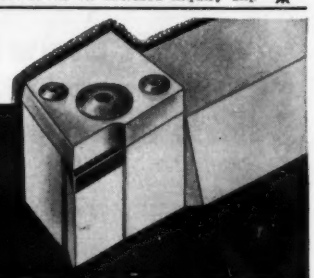
To cut plant housekeeping costs by quickly and easily keeping aisles and roadways free of ferrous scrap. Homer Magnetic Hand Sweepers available in sweeping widths 12" to 36". Road sweepers, widths 48" to 96".

WRITE FOR BULLETIN MS-250-1

HOMER MANUFACTURING DIVISION
THE OHIO ELECTRIC MANUFACTURING CO.
DEPT. 124 • LIMA, OHIO

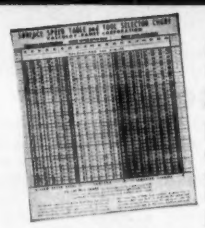
▲ For more details circle NED-96 B9 on enclosed inquiry slip ▲

V-R



BLANKS . . .
TOOL HOLDERS . . .
INSERTS . . .
BRAZED TOOLS . . .
TANTUNG . . .

LOWER COST PER CUT



Ask for V-R SURFACE SPEED TABLE and TOOL SELECTOR CHART

Lowering cutting costs is a matter of fitting the right V-R carbide to the particular job. V-R production engineers have worked with thousands of cutting problems and developed carbides and tools for greater efficiency in practically any application. Put this fund of cutting know-how to work lowering your costs. Write for complete information or contact your V-R Distributor.

C-716

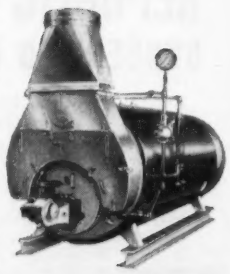
V-R Vascoloy-Ramet corporation
PRIME MANUFACTURERS OF REFRACTORY METALS ENGINEERED FOR THE JOB
876 Market Street • Waukegan, Illinois

▲ For more details circle NED-97 B9 on enclosed inquiry slip ▲

Leffel Boilers Pass The Acid Test:

". . . we have been in the boiler business for nearly fifty years, and the only repair work we have ever done on a Leffel Scotch Marine Boiler has been due to human failing, and not to mechanical failure. The Leffel Scotch Marine Boiler is without a doubt the strongest and most trouble-free boiler built."

Mr. J. J. Bower, President
J. J. Bower Company, Inc.
Roanoke, Va.



No man is in a better position to judge boilers than the man who services and repairs all types and makes. It pays to listen to a man like J. J. Bower for his words are backed by nearly a half-century of experience. In the brief statement above, Mr. Bower cuts away all the claims and promises of most of today's boiler advertising and tells you why *you* should rely on Leffel boilers for your steam requirements.

For more details on why you can count on rugged, reliable Leffel boilers for long life and dependable service, write today for your free copy of Bulletin 236.

THE JAMES LEFFEL & COMPANY
Dept. D
SPRINGFIELD, OHIO

▲ For more details circle NED-98 B9 on enclosed inquiry slip ▲

BIG "G" TRANSFER PUMP

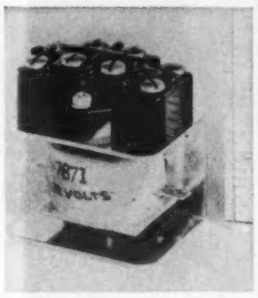
Double action, piston-type transfer pump delivers more gallons with less work—saves time, money and energy. Natural, lever-action pumps on both forward and back stroke — constant flow of 20 g.p.m. with up to a 20-foot lift. Sturdy all-metal construction withstands roughest treatment. Vacuum breaker permits complete hose draining and prevents siphoning. Self-priming Big G pumps are available in a wide variety of models.

Patent 2,843,051

JOHN WOOD COMPANY
BENNETT PUMP DIVISION
MUSKEGON, MICHIGAN
In Canada: JOHN WOOD COMPANY LTD.
Toronto • Montreal • Winnipeg • Vancouver

▲ For more details circle NED-99 B9 on enclosed inquiry slip ▲

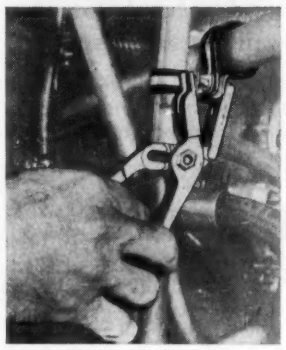
HIGH POWER RELAY
modular designed unit rated 20 amp



UL-approved for rating of 20 amp or 2 hp at 230 v ac, this high power relay measures only 3 x 2 1/16 x 1½ in. The control is designed on a modular basis so that either switch or coil can be replaced without removing the relay from its mounting. It is available for either side or bottom mounting. Available circuit arrangements are double-pole double-throw, single-pole double-throw, double-pole single-throw—NC, and double-pole single-throw—NO. Relay is offered for 24, 32, 115, and 230-v ac and for 12, 30, and 115-v dc. Made by **Robertshaw-Fulton Controls Co.**, Acro Div., Columbus 16, Ohio.

▲ For more details circle NED-102 B9 on enclosed inquiry slip ▲

TUBE CLAMP PLIER
useful in cramped quarters



Cushioned clamp for wire and tube harnesses is easily installed with the Model 82 plier. The hand tool secures the bolt, mechanically closes the clamp, and locks it in place, freeing both hands for attaching the nut or for stacking additional clamps into the lock position. The forged steel plier is useful in cramped quarters where use of both hands is restricted. Plier is 7½ in. long, handles No. 8 and 10 bolts, and sells for $9.95. Made by **TA Mfg. Corp.**, 4607 Alger St., Los Angeles 39, Calif.

▲ For more details circle NED-103 B9 on enclosed inquiry slip ▲

ARBORS & ADAPTORS
are hardened to prevent set

Line of J & S Nobend detachable milling machine arbors and adapters with live bearing supports affords such features as full-time tooth engagement, long cutter life, and correct arbor lengths. All the arbors and adapters are hardened and ground to prevent set. The quick-change arbors are interchangeable with 40 to 50-taper adapters, allowing more continuous milling operation. Made by **J & S Tool Co.**, 87 Dorsa Ave., Livingston, N. J.

▲ For more details circle NED-104 B9 on enclosed inquiry slip ▲

AURAND
CLEANING TOOLS
ELECTRIC OR PNEUMATIC

Zip away SCALE RUST PAINT

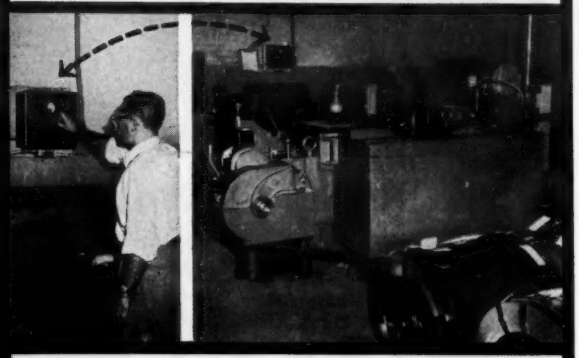
Powerful rotary chipping action completely removes stubborn accumulations from iron, steel, brick, concrete, etc. with less effort. Adjustable depth shoe for controlling depth of cut. Renewable cutter heads. Two sizes in both electric and pneumatic models. Lightweight.

Write for the money-saving facts.

AURAND MFG. & EQUIP. CO.
1322 Ellis St. • Cincinnati 23, Ohio

▲ For more details circle NED-105 B9 on enclosed inquiry slip ▲

Protect Automatic Machinery



Sperry Monitron increases production, saves man-hours, protects cold-headers in the manufacture of General Electric Telechron Clocks

This cold-header automatically stamps out clock parts in complete safety. MONITRON will stop the machine the instant that it senses a load change, pile-up, misfeed, dull tool, oversize stock, faulty lubrication, etc.

MONITRON is easy to install . . . needs no attention . . . but gives electrically driven presses, conveyors, pumps, automatic machine tools, etc., *every* attention!

SPERRY PRODUCTS, INC.
1702 Shelter Rock Road, Danbury, Conn.

▲ For more details circle NED-100 B9 on enclosed inquiry slip ▲

• VACUUMS
• BLOWS • SPRAYS
• DRIES*

HEAVY DUTY MODEL. Medium and Light Duty models also available.

Capable . . . Delivers efficient, economical, all-around service — whether you use it as a vacuum, blower, sprayer or drier*. Cast aluminum housing, streamlined and light in weight, makes possible long, continuous use without operator fatigue.

*Heater Nozzle available for Light Duty Model only.

Durable . . . Outlives lesser cleaners because it is ruggedly built to withstand the roughest industrial use. Heavy Duty 1⅓ H.P. motor, air-cooled for extra long life, blows at a velocity of 26,500 feet per minute.

Adaptable . . . Economically converts to Tank Type cleaner in less than a minute. Choose from either of two Conversion Packs:

1. TANK CONVERSION PACK

Multiply the usefulness of IDEAL'S Heavy and Medium Duty Hand Type Cleaners by converting to a powerful, all-purpose STANDARD Cleaner. Conversion Pack consists of wheel-mounted 12-gallon steel tank and large dust-tight bag.

2. 55-GALLON DRUM CONVERSION PACK

For IDEAL'S Heavy Duty Hand Type Cleaner. A Conversion Pack consisting of (1) cast aluminum cover and (2) dust bag; and your own 55-gallon drum, gives you a "king-size" industrial tank type cleaner. Four-wheel dolly optional.

Sold Through America's Leading Distributors
In Canada: Irving Smith, Ltd., Montreal

IDEAL INDUSTRIES, INC.
1032-B Park Avenue, Sycamore, Illinois
Please send me full catalog data on IDEAL'S Hand Type Cleaners and Conversion Packs.

Name_____
Company_____
Address_____
City_____ Zone____ State____

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ELCIDE 75™ . . . new way to increase plant efficiency . . . lower costs!

Bacteria, like these, cause emulsion trouble. They enter soluble oil emulsions through the air, water, and plant debris. Feeding on the oil-water mixture, they multiply until they cause odor, corrosion, and final emulsion breakdown. *Now, their damage can be stopped.*

One ounce of Elcide 75 added to each four gallons of standard duty soluble oil emulsion controls these bacteria . . . greatly reduces operating costs. Actual plant tests have shown Elcide 75–treated emulsions last *up to 5½ times longer.* With Elcide 75 you buy less oil concentrate, have less down time for recharging, and cut down the expense of disposal. Labor efficiency is increased while costs decrease. *Write today for more information and actual plant test data.*

PRODUCT SPECIFICATIONS ELCIDE 75

Active Ingredients—Sodium Ethylmercuri Thiosalicylate (Thimerosal) and Sodium *o*-phenylphenate.

PACKAGE	PRICE PER GAL.
1-gallon (4 per case), polyethylene	$8.50
5-gallon, polyethylene	$8.00
55-gallon, stainless steel	$6.50

Sold only through selected distributors.

KEEP COOLANTS FRESH AS A DAISY WITH...

Eli Lilly and Company, Agricultural and Industrial Products Division, Indianapolis 6, Indiana

ELCIDE 75™

Lilly's brand of bacterial inhibitor for cutting fluids

▲ For more details circle NED-101 B9 on enclosed inquiry slip ▲

save valuable production time and maintenance manpower...

powerful HEIN-WERNER HYDRAULIC PUSHMASTER RAMS in capacities of 4, 10, 20, 30 and 60 tons

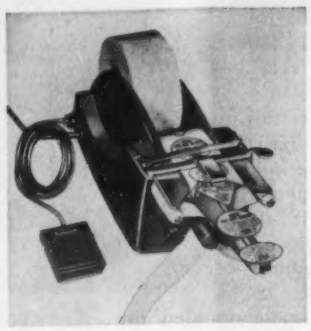
Hein-Werner Hydraulic PUSHMASTER Rams provide compact, controlled power anywhere needed to handle tough lifting, moving, pressing, ejecting, clamping, straightening, pushing or bending jobs. Write today for free copy of detailed PUSHMASTER catalog No. 25, or see your industrial distributor.

Hein-Werner also supplies industry with a full line of hydraulic jacks in capacities from 1½ to 100 tons; portable TAL BENDERS for smooth, uniform material bending in ranges from ⅜" to 8"; and "Push and Pull" Hydraulic Jacks and Attachments in 4, 10 and 20 tons capacity.

Hein-Werner CORPORATION WAUKESHA, WISCONSIN

▲ For more details circle NED-107 B9 on enclosed inquiry slip ▲

LABEL & TAPE DISPENSER delivers tape on conveyor

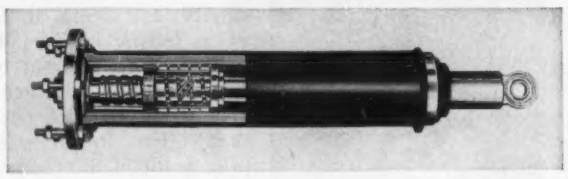


Precut labels, masks, or special die-cut shapes made of any pressure-sensitive paper, cloth, foil, film, or double-coated tape are dispensed at any desired speed by the Tapematic dispenser. Machine delivers tapes on a conveyor to the operator's finger tips, and can be operated by a foot switch, for intermittent application, or a Micro Switch for continuous application. Tapes can have from light to heavy industrial grade adhesives. Different sizes and shapes of printed or unprinted labels can be dispensed from the same roll. Made by W. H. Brady Co., 727 W. Glendale Ave., Milwaukee 9, Wis.

▲ For more details circle NED-110 B9 on enclosed inquiry slip ▲

BALL SCREWJACKS perform linear and rotary motions, have life of 10 million reversals

Ball bearings in a concave helical ball race serve as the medium of engagement between the nut and screw of ball screwjacks for linear and rotary motions. The



nut has one or more ball circuits, with the balls circulating continually whenever the screw and nut are rotated relative to one another. Because of inherently low friction, the driven mechanism can complete its operation cycle aided by gravity alone.

Life under normal loads and temperature is said to be 10 million reversals. Units can be designed for operation up to 1700° F with minimum lubrication. Load carrying capacity is up to 40,000 lb, thread length on shaft is 69.75 in. maximum, and shaft diameter may be up to 4 in. Several pitch ranges are offered. Made by **Walter Kidde & Co.**, Aviation Div., 675 Main St., Belleville 9, N. J.

▲ For more details circle NED-111 B9 on enclosed inquiry slip ▲

Heavy Duty Limit Switches

Minneapolis-Honeywell Regulator Co., Micro Switch Div.—Details of three types of heavy duty limit switches are presented in 16-page Catalog 84. Quickly replaceable 200 LS Series, compact LS Series, and rugged ML Series of regular and explosionproof types are detailed. Contact arrangements for alternating and direct current are included. Several actuator designs are shown.

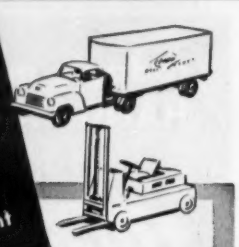
▲ For more details circle NED-112 B9 on enclosed inquiry slip ▲

high speed milling cutters FROM STOCK from one of America's Oldest Cutting Tool Manufacturers

SPECIAL CUTTER & TOOL COMPANY
401 Salliotte St. • Ecorse (Detroit) 29, Mich.

▲ For more details circle NED-114 B9 on enclosed inquiry slip ▲

Gasoline Engine Owners SAVE MONEY on FUEL COST-OIL-UPKEEP with BEAM LP-GAS Carburetion Equipment



BEAM Butane-Propane Carburetion equipment is making unbelievable savings records. Thousands of satisfied users say:

"Beam carburetion has lowered my oil consumption 66%."

"My tractors are running four times longer between overhauls."

"Engines run smoother in our taxi fleet, and no vapor locks."

"Saving money on gas. This alone will pay for Beam installation in less than a year."

WRITE FOR FREE LITERATURE AND NAME OF YOUR NEAREST DISTRIBUTOR

BEAM PRODUCTS MFG. CO.
3040 Rosslyn Street • Los Angeles 65, California
CHapman 5-5791

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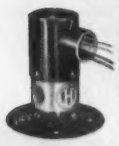
For DUMB WAITERS BOOK LIFTS RECORD CARRIERS Consult MATOT

Since 1888 designers and builders of electrical and hand operated dumb waiters for hotels, restaurants, clubs, banks, libraries, warehouses, factories, institutions.

COMPLETE DATA IN SWEET'S CATALOG OR WRITE
D. A. MATOT, Inc.
1535 W. ALTGELD STREET • CHICAGO 14, ILLINOIS

▲ For more details circle NED-115 B9 on enclosed inquiry slip ▲

HUMPHREY "Quick-Dump" VALVES
OFFER MORE ON 2, 3, 4-WAY APPLICATIONS

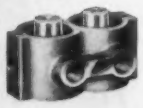


ELECTRICALLY OPERATED
2-way and 3-way valves. Both one-coil "fail safe" and two-coil "momentary impulse" types.

MANUALLY OPERATED
2-way and 3-way finger-tip operation. A touch opens or closes. Many models — lever, cam, foot pedal, palm button, etc.

PILOT-OPERATED ELECTRIC VALVES
2-way and 3-way models, actuated by independent source of pressure. Two types: "fail safe" and "momentary impulse."

PILOT OPERATED VALVES
4-way 5-port shown (2, 3-way avail.) actuated by medium (gas or liquid) separate from medium being valved.



FULL ⅛", ¼", ½" CAPACITY THROUGHOUT—42 MODELS

Basically simpler, faster-operating, longer-lived control valves. For temperatures from —65 to 225° F. Many exclusive, better features for superior performance. Adopted by nationally known O.E.M. firms.

Engineering assistance available on valving problems.

WRITE TODAY FOR BULLETIN 202-F

Humphrey Products
"The Heart of Automation"
DIVISION OF GENERAL GAS LIGHT COMPANY
202 N. PARK ST., KALAMAZOO, MICHIGAN

Pneumatic-Hydraulic Valves and Devices

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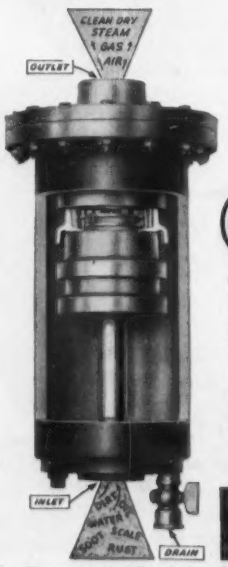
Deliver CLEAN DRY AIR by this Exclusive Method

No MOVING PARTS No FILTERS TO REPLACE No GUESSWORK



CMD TEXTITE AIR SEPARATORS

The accurately rated capacities of CMD Textite Air Separators assure ample C.F.M. volume to clean air and thoroughly dry it. Not mainliners; should be installed at or near point of use. Four sizes from 25 C.F.M. to 250 C.F.M. inclusive.

Send for Bulletin

CHICAGO MANUFACTURING & DISTRIBUTING CO.
1928 W. 46th St., Chicago 9, Ill.

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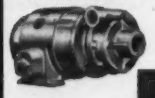
END-SUCTION PUMPS

over 50 MODELS TO CHOOSE FROM
In the Peerless Fluidyne Line

YOU HANDLE MOST ALL WATER PUMPING JOBS
With the Peerless Fluidyne Line

WIDEST RANGE OF HEADS & CAPACITIES
In the Peerless Fluidyne Line

Put an economical PEERLESS Fluidyne Line End-Suction Pump to work now

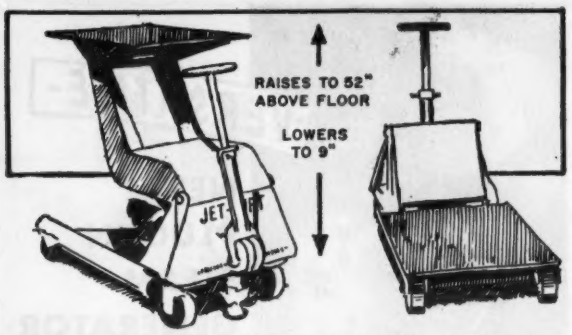


FREE CATALOG

Request Peerless Bulletin No. B-2300. Contains 32 pages from which you can buy and apply these end-suction pumps ...Complete with pictures, description, dimensions and head-capacity selection charts. Free. Write today for your copy.

PEERLESS PUMP fmc
PEERLESS PUMP DIVISION
FOOD MACHINERY and CHEMICAL CORPORATION
Address Inquiries to Factories at:
Los Angeles 31, California
Indianapolis 8, Indiana

▲ For more details circle NED-116 B9 on enclosed inquiry slip ▲



THE HEAVY DUTY, HAND OPERATED, HYDRAULIC PORTABLE ELEVATOR, THE NEW & VERSATILE

JET-LIFT

SPECIFICATIONS

Built in 2 capacities: 2000 and 3000 lb.
Platform size: 28" x 36"
Base Frame: 28¼" x 59"
Wheels: 8" dia. Front swivel, rear fixed.
Painted yellow.
PRICE ON APPLICATION.

THE JETROW CO.
BRIDGEPORT, OHIO

With a couple of shakes of the handle, one man can lift heavy loads with the aid of this compact, easily operated JET-LIFT. Use it to lift barrels, boxes, crates in loading and unloading operations. The JET-LIFT may be used as a die buggy, or a movable work table of adjustable height. Operator can quickly maneuver and adjust the JET-LIFT to any position. Has a lifting and lowering range of 44 inches.

▲ For more details circle **NED-117 B9** on enclosed inquiry slip ▲

New! **makes quick work out of dirt or scrap pick-up and removal; a real time and money saver**

Lightweight dirt pan detaches from handle and wheels for easy dumping. Simply swing handle forward.

Has multiple applications for indoor or outdoor use in manufacturing plants, mills, warehouses, machine shops, offices, etc. Rugged all-welded steel construction will take hard use.

Plantman SWEEPCART

Here's one of the simplest yet most practical ideas for floor clean-up use. SWEEPCART *eliminates* the old push-broom . . . to shovel . . . to barrel routine. Saves considerable time and money, simplifies floor cleaning, improves worker efficiency, promotes better plant housekeeping.

Start your floor clean-up savings now. Order a SWEEPCART today. Immediate shipment.

Only $29.50
f.o.b. Cambridge, Massachusetts
Satisfaction guaranteed or money back.

Simplifies floor cleaning—No barrels, shovels, etc., to push or drag around.

No shoveling — Sweep dirt, etc., right into SWEEPCART and wheel to disposal area.

Speeds up work — Counterbalanced so, full or empty, it is simple to handle.

Another Plantman Product by
Send your order to **HANDLING DEVICES COMPANY, INC.**
35-38 Concord Lane, Cambridge 38, Mass.

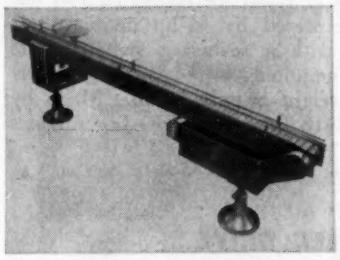
▲ For more details circle **NED-118 B9** on enclosed inquiry slip ▲

SELF-LOCKING CAP NUT seals against joint leakage

Designed to withstand physical abuse during assembly and maintenance, the Type A2502 cap seal floating anchor nut seals against leakage in diverse applications. The fastener consists of a drawn steel shell, a rubber sealing ring molded to an aluminum base ring, and a self-locking nut which floats inside the cap to compensate for bolt misalignment during assembly. Sealing rings are suitable for sealing of aromatic and/or alkylate aircraft fuels, but are also available for high temperatures and/or other liquids. Sizes available are 10-32 and ¼ in.-28, with 5/16 in.-24 to be offered soon. Made by **Elastic Stop Nut Corp. of America**, 2330 Vauxhall Rd., Union, N. J.

▲ For more details circle **NED-120 B9** on enclosed inquiry slip ▲

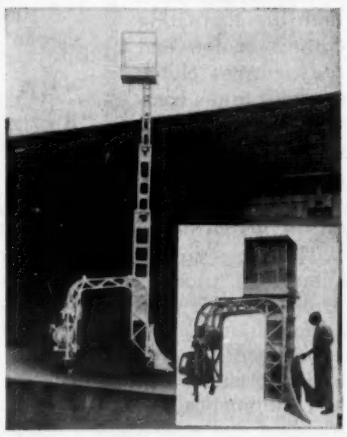
TABLE TOP CHAIN CONVEYOR carries bottles, cans, small parts



This versatile table top chain conveyor will carry bottles, cans, jars, small parts, and packages. It can be used with separate filling or capping devices, or integrated with other machines. Chains are available in case hardened plain steel or stainless steel in 3¼, 4, 4½, 6, and 7½-in. widths. Units are supplied in 10-ft sections. Made by **Conveyor Specialty Co.**, 33 Newport Ave., North Quincy, Mass.

▲ For more details circle **NED-121 B9** on enclosed inquiry slip ▲

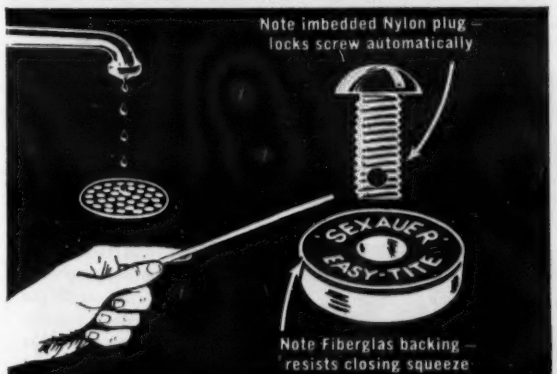
STRADDLE SCAFFOLD bridges desks, machinery, tables



Overhead painting, cleaning, relamping, and various types of repairing can be expedited by using the straddle scaffold, designed to be used over machinery, desks, tables, seats, and other obstructions. It can be built to individual requirements as to size of work platform and height to be reached. The welded steel unit has outriggers for stability and folds for storage. Made by **Atlas Industrial Corp.**, 849 39th St., Brooklyn 32, N. Y.

▲ For more details circle **NED-122 B9** on enclosed inquiry slip ▲

▲ For more details circle **NED-123 B9** on enclosed inquiry slip ▲



NEW WAY TO

Prevent Faucet Leaks!

★ **9 out of 10 washers are fastened with screws that are TOO LONG or SHORT. The screws quickly loosen; the loosened washers are destroyed thru grind and squeeze of opening and closing faucets.**

34 years of research uncovers new solution

★ **Now, NEW (Patented) 'Sexauer' SELF-LOCK Monel screws, with an imbedded expanding NYLON PLUG, lock at the required depth AUTOMATICALLY, hold washers FIRMLY! Made of rustproof, non-corroding Monel, heads don't twist off, screw slots don't distort. They are easily removed when necessary, can be re-used repeatedly.**

★ **Used with NEW 'Sexauer' EASY-TITE faucet washers, they make a combination that outlasts past faucet repairs "6-to-1"! EASY-TITES are made of super-tough, pliable du Pont compound (neither rubber nor fibre) and reinforced, like a tire, with a vulcanized layer of Fiberglas. They resist distortion and splitting from shut-off grind and squeeze.**

Hidden costs of faucet leaks!

Faucet leaks are costly! As authenticated by Hackensack, N. J. Water Co. and American Gas Association, stopping just ONE PIN-HOLE SIZE (1/32") LEAK can reduce water waste 8,000 gal. quarterly. If a HOT WATER FAUCET LEAK, water and fuel savings JUMP to over $7.58 QUARTERLY—plus additional savings on MATERIALS, LABOR and costly FIXTURE REPLACEMENTS!

NEW SELF-LOCK screws and EASY-TITE faucet washers are just TWO of the "SEXAUER" line of over 3000 TRIPLE-WEAR plumbing repair parts and Pat'd. precision tools.

A "SEXAUER" Technician in your vicinity will make our NEW 126 page Catalog "H" available. He will gladly consult with you regarding a SURVEY of your plumbing fixtures to determine correct repair parts required and establish reasonable stock levels that avoid both overstocking and shortages—thus providing for efficient stock arrangement and control—all without obligation. WRITE TODAY!

J. A. Sexauer Mfg. Co., Inc., Dept. AU-29
2503-05 Third Ave., New York 51, N. Y.

Gentlemen: *Please send me a copy of your NEW, 126 page catalog "H."*

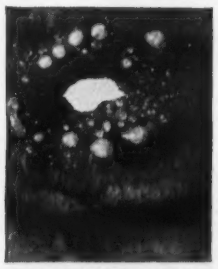
My Name_____ Title_____
Company or Institution_____
City_____ Zone_____ State_____

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

▲ For more details circle **NED-124 B9** on enclosed inquiry slip ▲

New, light-weight G-E Quartz Thread helps solve heat problems of outer space

STEEL


GLASS-REINFORCED PLASTIC

QUARTZ-REINFORCED PLASTIC

FLAME TEST—Here are samplings of materials burned with an oxyhydrogen torch at 5000° Fahrenheit. Note how steel and glass reinforced plastic melted and burned through. Only the General Electric quartz-reinforced plastic (at right) withstood the flame and retained its structural strength—yet the flame was kept on this sample over three times as long!

ROCKS TO ROCKETS—General Electric's new Quartz Thread is spun from tiny monofilaments that are only 1/10th as thick as human hair. Made from rock-like quartz crystals, the monofilament is twisted into thread . . . then woven into a fabric that withstands thermal erosion and retains its tensile strength at elevated temperatures far in excess of any other textile.

WIDENING FIELD OF USES—Today this fabric is being tested by the military in space craft only. Cloth made of this new G-E Quartz Thread will provide plastics with a greater per cent retention of strength—making them stronger at the extreme temperatures they meet in rocket and missile applications. Soon, however, many non-defense applications will be using G-E Quartz Thread to solve heat problems and act as a thermal barrier.

FREE BROCHURE — Send for free 5-page brochure on new G-E Quartz Thread. Gives general description, covers physical properties (tensile strength, elongation, viscosity, density), details the chemical properties, and provides information for ordering. Write: General Electric Co., Willoughby Quartz Plant, Dept. NED-29, Willoughby, Ohio.

Progress Is Our Most Important Product

GENERAL ELECTRIC

▲ For more details circle **NED-119 B9** on enclosed inquiry slip ▲

ZIP-TACK-GO!

HANSEN Automatic TACKERS

36 MODELS 80 STAPLE SIZES

Fast, dependable, sure . . . Hansen Tackers make tacking a pleasure on all kinds of jobs. Be sure of getting the best . . . choose a Hansen Tacker now!

For Labeling, Displays, Insulation, Decoration, Assembly Work . . . many others

WRITE today for free Hansen booklet.

A. L. HANSEN MFG. CO.
5164 Ravenswood Avenue • Chicago 40, Illinois

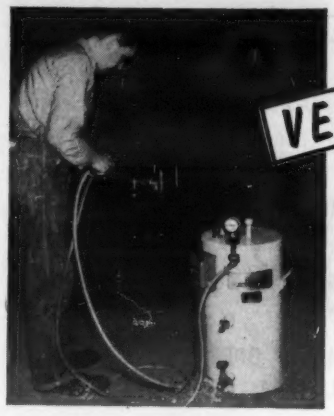
▲ For more details circle NED-125 B9 on enclosed inquiry slip ▲

WASTE LINE CLEANER operates forward and reverse and has three controlled feeds

Forward and reverse operation with automatic feed is provided by the Powerfeed Model 58 waste line cleaner. It has hand feed control, slow feed of 4 fpm for cautious boring, and fast feed of 14 fpm. Automatic feed operation in 1½ to 3-in. lines is done with a heavy gage Right Wind Spring measuring ⅝ in. by 100 ft. Back of unit has a coupling for powering a sectional Sewerod to distance of 200 ft in 3 to 6-in. diameter lines.

Model 58 is equipped with a ⅝-in. by 100-ft coiled spring and bore head, cutter heads for 1½, 2½, and 3-in. lines, and a Hunter Head for retrieving lost objects or rags. It is powered by ⅓-hp double shaft G-E motor equipped with a reversing switch. The welded steel frame is mounted on 1¾ x 8 in. rubber-tired wheels. Total weight is only 30 lb. Made by Marco Products Co., 3416 Vineyard Ave., Los Angeles 16, Calif.

▲ For more details circle NED-128 B9 on enclosed inquiry slip ▲



VERSATILE-

NEW PLUG-IN STEAM GENERATOR

Easily Converted to a Steam-Jet Cleaner!
For plug-in operation on 110- and 220-volt circuits, the compact, ASME Code Series "R" SPEEDYLECTRIC steam generators are ideal for pilot plant and production processes requiring small volumes of high-pressure steam. This unit features safe, electrode heating with precise current control. Easily converts to a Steam Jet Cleaner. Write today for Bulletin SG-200.

Pantex MANUFACTURING CORPORATION
See our catalog in Sweet's Plant Engineering File
9-028 P. O. Box 660Z, Pawtucket 2, Rhode Island

▲ For more details circle NED-131 B9 on enclosed inquiry slip ▲

JOB-RATED
WERNER ALUMINUM
INDUSTRIAL PLATFORM LADDERS

Lighter, Stronger, Safer

WERNER Industrial Platform Ladders save effort because they are easier to handle — the big, roomy working platform provides greater safety and comfort — cuts time and labor costs. Rugged aircraft-type aluminum construction makes them ideal for heavy duty and a lifetime of maintenance-free service.

1. Non-sparking, non-magnetic
2. Wide, slip-resistant, reinforced platform and steps
3. Heavy duty, non-slip ribbed rubber feet
4. Accepted as "The Standard of the Industry"

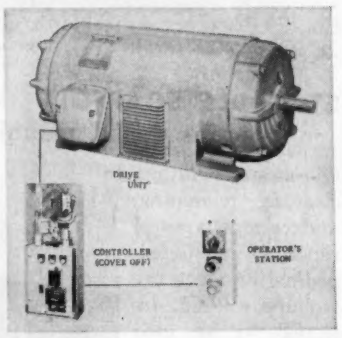
Write for full specifications, prices and your nearest industrial distributor.

Underwriters' Laboratories, Inc. INSPECTED LADDER

WERNER CO. INC.
295 FIFTH AVE. DEPT. NE-2 NEW YORK 16, N.Y.

▲ For more details circle NED-126 B9 on enclosed inquiry slip ▲

ADJUSTABLE SPEED DRIVE ¾ to 7½ hp stationary field type for continuous full load operation



Redesign of the ¾ to 7½-hp Ajusto-Speed adjustable speed drive has reduced the length up to 22 per cent. Both the alternating current motor and eddy current clutch are built into a common housing. Motor end brackets are interchangeable with standard flanges. Units can be flange-mounted on the driven machine for further space saving.

The drive supplies precise operating speeds for machine tools, process machinery, conveyors, and similar equipment. It can operate continuously at full load (constant torque) in ranges as high as 34:1 and for intermittent use from zero to full speed. A tachometer feedback circuit continually monitors the drive shaft and automatically corrects speed. Jogging control is standard and other control features are optional. Made by Louis Allis Co., Dept. P, 427 E. Stewart St., Milwaukee 1, Wis.

▲ For more details circle NED-129 B9 on enclosed inquiry slip ▲

Wherever enamel is used

JET-DRI
(Made with CCR-37)

DOES THE JOB *WITH NO DOWN-TIME!*

Greatest advance in paint history!

JET-DRI MULTI-PURPOSE INDUSTRIAL (NON-TOXIC) ENAMEL

Covers metal, concrete, wood, plaster . . . and dries in 15 minutes.

Free color card and descriptive literature

CONSOLIDATED CHEMICAL & PAINT MFG. CO., INC.
456 Driggs Ave., Brooklyn 11, N.Y.

▲ For more details circle NED-132 B9 on enclosed inquiry slip ▲

Uncompromising standards at Pfizer call for ROCKWOOD UNIONS

The standards at Chas. Pfizer & Co., Inc., manufacturers of antibiotics and other medicines, are necessarily high — for years Rockwood Cold-Forged Unions have been helping Pfizer meet these standards with:

- exacting sterilization pipe line service
- assured corrosion protection of entire union
- color-coding for quick, easy inspection
- hardness differential for tight seal
- four different seats for all general piping needs (tested and listed by Underwriters' Laboratories, Inc.)

Rockwood Unions are also easy to handle and completely interchangeable. *They are ideal for use in the chemical industry.* Send for full information.

ROCKWOOD SPRINKLER COMPANY
2928 Harlow Street
Worcester 5, Massachusetts

▲ For more details circle NED-127 B9 on enclosed inquiry slip ▲

MD pres-SURE-blocks— DESIGNED for QUICK Assembly and EASY Changes

QUICKEST TO HANDLE — any number of circuits — pre-assembled lengths of 20 circuits (1-1/8" w. x 63/64" h.).

LARGER CAPACITY IN LESS SPACE — #22 thru #8; conservatively rated at 750 volts. Choice of contacts (7/16" O.C.) for stripped or terminal-ended wires.

SIMPLEST TO LENGTHEN — without removing mounting screws or losing contact space.

EASIEST TO ASSEMBLE — just pull off or add circuit groups; use mounting screws every 12 circuits.

USE FEWER CIRCUITS by grouping common wires — decrease jumpering; no unused contacts.

Write for Bulletin J-2

STOCKED BY LEADING ELECTRICAL DISTRIBUTORS

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HILLSIDE, NEW JERSEY

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12 GOWER ST., TORONTO 16, ONT.
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100 E. 42nd ST., NEW YORK, N.Y.

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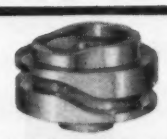
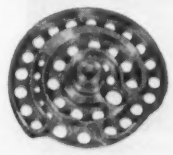
PRECISION CAMS and CAMSHAFTS
All Types . . . Experimental and Production



Special Drum Type Cam

TWO AND THREE DIMENSIONAL CAMS
for Ballistic, Computer and Instrument Use—Milled or ground to ± .0001" tolerance



Face Type Cam

FACE AND CYLINDRICAL CAMS
milled or ground to ± .0002" tolerance

CAMSHAFTS
Aircraft, Automotive, Diesel Marine, Fuel Injection

Camshaft for Internal Combustion Engine

EONIC Inc. Engineers of Precision

Write for catalog and additional information

459 E. Hollywood • Detroit 3, Michigan

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Chief of Engineers say:
"Heap big saving on die cost with T-J CUTTERS!"

Smoke out facts—plain to see that Chief makes sense! T-J Cutters plenty rugged. Raise um feed. Reduce um die cost. Follow trail of many tribes—use T-J for tough die sinking milling. Chief knows you will like! Sign treaty now for T-J Cutters. Good medicine for high production, lower costs!

Yes, T-J makes the kind of he-man Cutters you need. Designed for speed, accuracy and long life . . . less breakage . . . more work between grinds! Made from an extremely high grade steel . . . properly machined . . . scientifically heat-treated and accurately ground. Wide range of styles and sizes. Send smoke signal or write for new catalog No. 1055. The Tomkins-Johnson Co., Jackson, Mich.

T-J
TOMKINS-JOHNSON
RIVETORS · AIR AND HYDRAULIC CYLINDERS · CUTTERS · CLINCHERS

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RUGGED McGILL® portable lampguards last longer

McGill portable lampguards are designed and built specifically to take the punishment of industrial use. Their use avoids frequent and costly replacement. Extra heavy cages are electrically welded and zinc-plated with chromate finish. Choice of handles include neoprene-butyl, wood and impact resistant molded phenolic. With LEVOLIER switches and 660 watt 250 volt sockets, McGill portables offer much more service for little more in price.

No. 7100-SR Gray neoprene-butyl handle, reflector. No Rol cage switch. Thumb clamp allows quick lamp changing without tools.

Available from your Electrical wholesaler

Write for McGILL catalog No. 84

engineered electrical products
McGILL®
precision needle roller bearings

McGILL MFG. CO., INC., Electrical Div., 151 N. Campbell St., Valparaiso, Ind.

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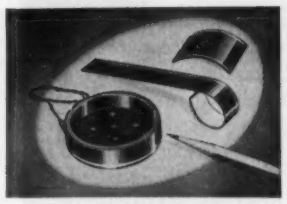
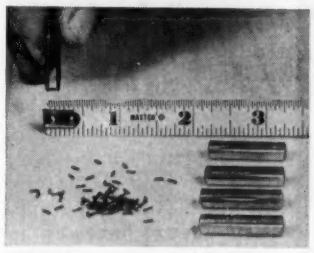
CONTOUR PHOTOCELLS
shaped into almost any form



Three dimensional contour photocells are pliable selenium photovoltaic units which can be shaped into almost any form. They can be mounted on a rotating shaft in a position control servomechanism, or they can be used as a nonlinear function generator when formed into a photosensitive cam. The light sensitive cells can be used in various electronic photoelectric devices for control, production flow processes, automatic inspection and sorting, and other functions. They may be produced in curved, cylindrical, or other configurations in three-dimensional shapes with as little as 1 in. radius. When exposed to light, a cell generates about ½ v. Sizes range from a minimum of ¼ x ¼ in. to a maximum of 10 x 10 in. Made by **International Rectifier Corp.**, 1521 E. Grand Ave., El Segundo, Calif.

▲ For more details circle NED-137 B9 on enclosed inquiry slip ▲

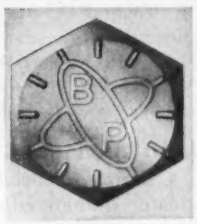
LOCKING PINS
now made in miniature sizes



Two miniature parts can be connected or locked together by these Groov-Pins, with only 1/32-in. diameter and lengths as short as ⅛ in. They are made in four types with grooves to meet various requirements. Metals used are Type 6150 chrome-vanadium or Type 303 stainless steel. Held to tolerances of ±0.000 in., the miniature drive pins have lengths up to ½ in. Made by **Groov-Pin Corp.**, 1125 Hendricks Causeway, Ridgefield, N. J.

▲ For more details circle NED-138 B9 on enclosed inquiry slip ▲

CAP SCREWS & NUTS
tensile strength is 186,820 psi



Line of Bowmalloy cap screws and nuts for use in large, fast operating, high capacity equipment has a proven tensile strength of 186,820 psi. Head design which is 20 per cent higher than SAE specifications matches the increased strength of the bolt and eliminates head damage caused by wrench slippage. The alloy from which fasteners are made is double heat treated and is extremely rust and wear resistant. Line is surface tinted in red for identification. Made by **Bowman Products Co.**, 850 E. 72nd St., Cleveland, Ohio.

▲ For more details circle NED-139 B9 on enclosed inquiry slip ▲

HIGH LIFT... HEAVY LIFT... OR BOTH!

PORTELVATOR®
ENGINEERED POSITIONING EQUIPMENT

- PORTABLE or STATIONARY
- manual or power operation
- ANY KIND or DEGREE of MOVEMENT
- manual or completely automatic controls

★ Portelvator's mechanical power transmission design locks the top-plate by gravity in any attained position. Application of this transmission to multiple elevating screws provides unequalled safety.

IT'S A HAMILTON TOOL USE IT WITH CONFIDENCE

Write for FREE LITERATURE BATCH No. P-801

THE HAMILTON TOOL COMPANY
901 HANOVER STREET · HAMILTON · OHIO

▲ For more details circle NED-140 B9 on enclosed inquiry slip ▲

New STEEL GUARD Industrial Pneumatic Tire from Goodyear—a rugged performer from any angle!

NEW PERSPECTIVE ON "PNEUMATICS"

This unusual photo illustrates—in a striking way—*three important points* about the amazing new STEEL GUARD Tire that may well change your entire viewpoint on pneumatic industrial tires:

❶ Notice how the STEEL GUARD rolls right over sharp objects that would puncture other tires. The reason: a rubber-embedded *barrier of steel cables* locked firmly in place between plies—even reaching across the shoulders of the tire.

❷ Next, look at the rugged lugs on this STEEL GUARD. They provide extra traction and impact resistance on roughest surfaces.

❸ Look now at the sidewall of this STEEL GUARD. Yes, this is a *pneumatic* tire with all the smoothness, stability and flotation of the finest pneumatic tires – yet able to operate in areas where tires of this type failed prematurely before.

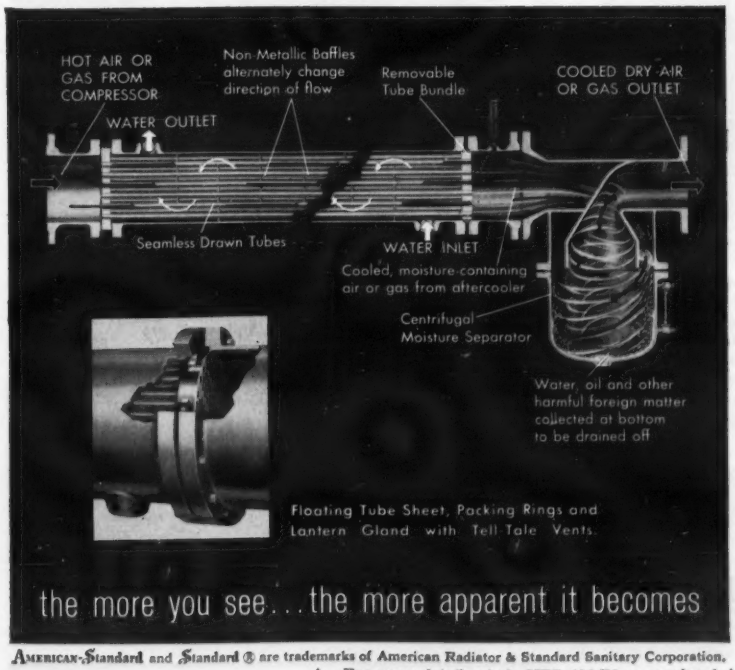
Why not let your Goodyear Dealer give you a new slant on pneumatic industrials – and STEEL GUARD – today. Or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

INDUSTRIAL TIRES BY
GOODYEAR
More tons are hauled on Goodyear Truck Tires than on any other kind

Steel Guard—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

▲ For more details circle NED-141 B9 on enclosed inquiry slip ▲

NEW ROSS PIPELINE AFTERCOOLERS
are today's most effective means of cooling and drying compressed air



Here, cut away for your inspection, is the new Ross Type A-100 Pipeline Aftercooler.

Note how the air in the tubes flows counter to the water in the shell so that the coldest (incoming) water serves the coldest (outgoing) air. Note, too, how the air is baffled into a swirling eddy within the moisture separator to force (centrifugally) water and all other entrainment from the line.

Examine every feature! The more you see, the more apparent it becomes: *This new aftercooler is the most efficient unit ever built for air compressor service.*

Equally important is the fact that fully standardized parts are utilized to eliminate costly "specials" in both engineering and fabrication. You save in every way.

Compact and easy to install, a Ross A-100 can be readily fitted into any compressed air system. There are 51 models to choose from, with capacities ranging from 0 to 36,000 scfm at operating pressures up to 150 psig for single or two stage compression.

Why not see all there is to see? New Bulletin 302.6K1 contains the complete, illustrated story as well as specifications. Write for your copy now. American-Standard, Industrial Division, Detroit 32, Mich.

AMERICAN-Standard
INDUSTRIAL DIVISION
AMERICAN BLOWER PRODUCTS • KEWANEE PRODUCTS • ROSS PRODUCTS

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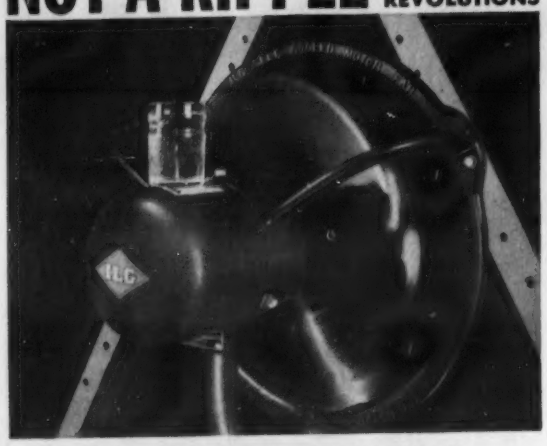
▲ For more details circle NED-136 B9 on enclosed inquiry slip ▲

NOT A RIPPLE AT 1140 REVOLUTIONS



ILG PROPELLER FANS

As vibration-free as a fan can be. ILG Propeller Fans with Ilg-built self-cooled motors always run quiet, cool and steady. Dynamically balanced fan wheel direct-connected to permanently lubricated, self-cooled Ilg motor assures quieter operation . . . longer motor life . . . lower operating costs. Full range of sizes from 6 to 72 inches; variety of types. Write for Catalog No. 159.

ILG ELECTRIC VENTILATING CO.
2806 N. Pulaski Road, Chicago 41, Ill.
Offices in 57 Principal Cities

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FREE 416-PAGE CATALOG

Lists over 8,000 Precision Instrument Parts and Components FROM STOCK

Featuring the NEW Precision Standard
PIC "Ultra-Precision"–Exceeds established standards, to provide the greater accuracy demanded by today's design, for the products of tomorrow.

FREE "DESIGN-AID" TEMPLATE KIT
Contains 14 Actual Size Templates

A completely new design template system, created by working engineers, to assist you in the design and development of your specific mechanical systems.
Ideal for Breadboard Layout, Prototype Design, Production Design, Technical Sketching and Detail Parts Drawing.

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PIC DESIGN CORP.
Subsidiary of **BENRUS WATCH COMPANY, Inc.**
477 Atlantic Avenue, East Rockaway, L. I., N. Y.

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Now—for those hard-to-heat areas!

INFRATUBE® RADIANT HEATING

—for indoor and outdoor locations

- No Exposed Wires or Coils
- No Moving Parts
- Direct Radiant Heat
- Quick, Safe and Silent

New INFRATUBE controlled area heaters, with their pure quartz elements, work like magic. Ideal for hard-to-heat industrial, commercial and residential areas — loading platforms, sheds, warehouses, arenas, churches, meeting halls, gymnasiums, locker rooms, patios, swimming pools, etc.

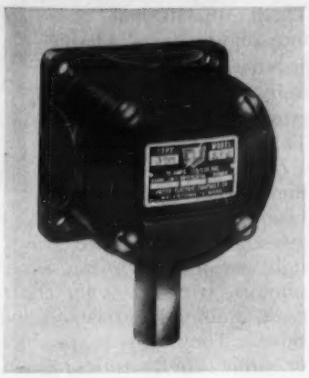
QUARTZ PRODUCTS CORP.
P. O. Box 628, 688 Somerset Street
Plainfield, N. J. — PLainfield 7-4545

Prepare for cold-weather now — mail the coupon today!

Yes—send complete information on Infratube to:
NAME_____
STREET_____
CITY_____ STATE_____
TELEPHONE_____
HEATING NEEDED FOR_____

▲ For more details circle NED-144 B9 on enclosed inquiry slip ▲

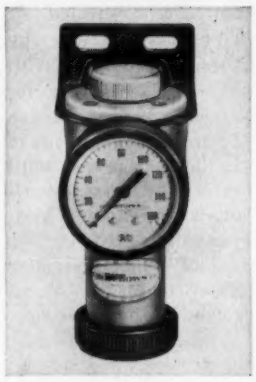
EXPLOSIONPROOF VACUUM CONTROL in ranges between 0 and 500 psi



Uncalibrated Type J95 explosionproof pressure vacuum control is available with adjustable ranges between the limits of 0 and 500 psi, and maximum pressures up to 600 psi. Pressure settings are made with an internal adjusting nut. Cast iron enclosure allows its use in Class I, Groups C & D; Class II, Groups E, F, & G; and Class III hazardous atmospheres. Bellows housing can be phosphor bronze, brass, Monel, or stainless steel. Normally-open, normally-closed, or double-throw switches are offered in 115-amp ratings at 115 or 230-v ac. Other ratings are available. Made by **United Electric Controls Co.**, 79 School St., Watertown 72, Mass.

▲ For more details circle NED-145 B9 on enclosed inquiry slip ▲

AIR LINE REGULATORS with built-in pressure relief valve



Regulator knob of relieving type air line regulators adjusts pressure by turning on one plane of rotation, thereby maintaining a constant height. A built-in pressure relief valve (standard equipment) allows increases in downstream pressure to "bleed" harmlessly into the atmosphere when this pressure exceeds the regulator setting. The chrome plated poppet valve can be removed for replacement without disturbing the air line. Regulators will reduce primary line operating pressures of up to 250 psi and will maintain desired downstream pressures of 0 to 50, 0 to 125, and 0 to 250 psi in separate units. They are offered in 1/4 and 3/8-in. sizes, with wall or through-panel mounting brackets, and with or without gages. Other sizes will be announced. Made by **Bellows Co.**, 230 W. Market St., Akron 9, Ohio.

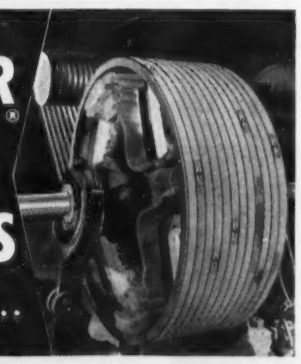
▲ For more details circle NED-146 B9 on enclosed inquiry slip ▲

Industrial Plant Color Kit

Colorizer Associates—Color specifications to promote greater human efficiency, safety, comfort, and morale in industrial plants are given in the Functional Color Kit. It illustrates specific colors for mechanical areas, drafting rooms, stairwells, inspection areas, washrooms, cafeterias, and exteriors. Reflectance percentage of each of 36 paint color chips is included.

▲ For more details circle NED-147 B9 on enclosed inquiry slip ▲

ALLIGATOR® V-BELT FASTENERS



make this possible . . .

Now you can keep costly "downtime" at a minimum (no need to dismantle machinery) . . . make up special size V-Belts quickly . . . simplify the replacement of worn or damaged V-belts.

***Remember:** Open-end V-Belting assures you of . . .*
- Far less stretch than other "connected-type" belting
- Top drive performance — greater traction surface between drive belt and sheave.

And! . . . Alligator V-Belt Fasteners provide one strong joint . . . terrific holding power!

FOUR TYPES . . .
- Regular Alligator V-Belt Fasteners for B, C, D, E and BB V-Belting.
- Aluminum • Monel
- Permanently Assembled Fasteners.

ORDER FROM YOUR DISTRIBUTOR OR WRITE TO . . .

Flexible STEEL LACING COMPANY
4664 LEXINGTON ST. • CHICAGO 44, ILLINOIS

▲ For more details circle NED-148 B9 on enclosed inquiry slip ▲

Representatives and Distributors in principal industrial areas. Ask for a Severance catalog today!

▲ For more details circle NED-149 B9 on enclosed inquiry slip ▲

LET SARGENT HELP SOLVE YOUR HAND TOOL PROBLEMS

Cutting . . . crimping . . . shaping . . . punching . . . holding . . . whatever the job, there's a Sargent Hand Tool that's right for you. Many are developed on a custom basis to solve special problems.

STANDARD PRECISION TOOLS LIKE THIS:
Outside Cutting Plier—All purpose industrial tool for holding wire and other round objects. Open throat for passage of long wire, pins.

SPECIAL APPLICATION TOOLS LIKE THIS:
Crimping tool with custom jaws—Fitted on standard handles, designed by Sargent for Biggs Distribution to perform special crimping operation.

FOR INFORMATION on Sargent's complete line of parallel action, compound leverage pliers, punches and special purpose tools, write:

SARGENT & COMPANY
New Haven 9, Connecticut
Manufacturers of Quality Locks, Hardware and Tools since 1864.

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Cuts the FASTEST and FINEST NOTCHES *Ever Made!*

ARC-SNUG

ARC-SNUG gives you clean-edge, close-fitting, true contour notching by making both the first and second cuts of the notch in a single downstroke of the press. Notches 1/2" to 1 1/4" O.D. metal tubing (16 gauge and under) at angles ranging from 35 to 90 degrees. Special sizes and special dies to cut stainless steel, Monel metal, etc., made to order. Dies for various angles and sizes are interchangeable. Write for literature.

NOTCHED SAMPLES GLADLY FURNISHED

Combines 2 operations in one . . . to give you the snuggest fitting, angular tubing joints for cheaper, quicker, easier welding.

VOGEL TOOL & DIE CORPORATION
1801 NORTH 32ND AVENUE • MELROSE PARK, ILLINOIS

▲ For more details circle NED-151 B9 on enclosed inquiry slip ▲

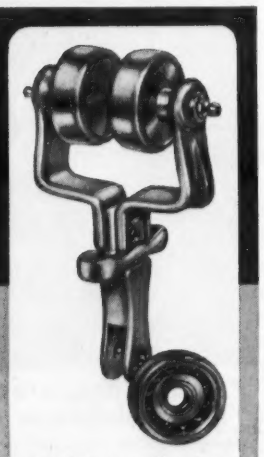
Aget offers more! Over 38 standard Dustkop models to choose from . . . *Plus* engineering service to help you select, provide, and install the proper accessories and fittings to complete your dust collecting system. Write for illustrated folder . . . Today!

AGET MANUFACTURING COMPANY
1396 E. CHURCH STREET • ADRIAN, MICHIGAN

▲ For more details circle NED-152 B9 on enclosed inquiry slip ▲

▲ For more details circle NED-153 B9 on enclosed inquiry slip ▲

R-K's NEW
2" pitch overhead conveyor trolleys are really RUGGED



Greater capacity, too — (135 lbs.) with our NEW No. 3 trolley. The trolley wheel is a screw machine product designed for easy rolling, trouble-free operation. Available with neoprene or felt seals. Trolley brackets, center link and "H" attachment are rugged steel forgings.

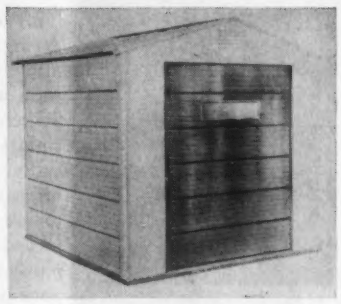
Write for this new bulletin illustrating cost-cutting applications for Rapistan-Keystone overhead conveyor.

R-K No. 3 trolley features fully-machined wheels, hardened raceways, twelve 5/16" ball bearings, replaceable grease fitting with ball check device for positive lubrication.

Rapistan®-KEYSTONE, INC.
21752 West Eight Mile Road, Detroit 41, Michigan

▲ For more details circle NED-154 B9 on enclosed inquiry slip ▲

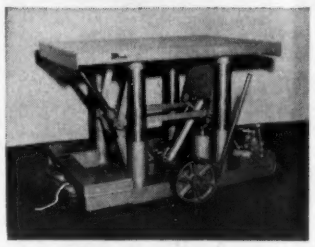
UTILITY BUILDING
has rolling overhead door



Measuring 7 x 7 ft, the Gard-House is suited for use as a tool house and utility building, and for permanent or temporary storage. It is built of heavy gage steel, is fireproof, and has horizontally ribbed side and rear panels for strength. Its rolling, garage type overhead door glides on rollers. The 56-in. wide, 72-in. high door can be rolled up out of the way, or kept in any position without falling. Sides and roof are baked-on white enamel and the door is green. Building is easily assembled and disassembled for moving. Made by **General Mower Corp.**, 595 Amherst St., Buffalo 7, N. Y.

▲ For more details circle NED-155 B9 on enclosed inquiry slip ▲

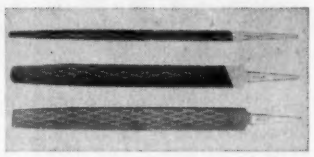
PORTABLE LIFT TABLES
handle dies, equipment up to 5000 lb



Ten-inch wheels at the center, and 5-in. casters and two floor locks at each end are incorporated into these hydraulic lift tables, made in capacities up to 5000 lb. The heavy duty, portable units handle dies and equipment in and out of presses and machines. Of welded construction with a 2-in. thick rail type top, their size is 30 x 44 in. Elevating range is from 18 to 32 in. above the floor. Tables have double-acting hydraulic cylinders, pump, four-way valve, and built-in stabilizers. Made by **Lexco Engineering & Mfg. Corp.**, 20 W. Chestnut St., Souderton, Pa.

▲ For more details circle NED-156 B9 on enclosed inquiry slip ▲

MULTIPURPOSE FILES
have chip-breaker grooves



Combination of varilength teeth and double diagonal chip-breaker grooves enable Criss - Cross Multi - Kit files to break up chips and keep them moving. Widening teeth hog off metal and narrowing teeth finish the work to specified smoothness. Result is that files require a minimum number of strokes and pressure on hard, dense metals and have a minimum of loading on soft metals. Flat, half-round, and square shapes are offered in 8, 10, 12, and 14-in. sizes. Made by **Heller Tool Co.**, Newcomerstown, Ohio.

▲ For more details circle NED-157 B9 on enclosed inquiry slip ▲

NEW Power Belt Conveyor

Rapistan® MODEL 400

Versatile power-belt unit conveys wide range of goods horizontally or on incline. Used for inter-floor applications or as low-cost booster in gravity flow systems. Serves as processing or assembly table in horizontal position.

SPECIFICATIONS
Write for Model 400 Bulletin

Rapistan® new ideas in materials handling
The RAPIDS-STANDARD CO., Inc.
601 Rapistan Bldg., Grand Rapids 2, Mich.

▲ For more details circle NED-158 B9 on enclosed inquiry slip ▲

INDUSTRIAL INKS To Mark Anything!

Whatever the substance, Phillips has an ink to mark it permanently and legibly—or can make one. Marking experts insist on "Clear Print" Wood Block Stamp Pads and Opaque Inks. They get clear, sharp, fast-drying impressions. Also inks for brush, pen, stencil or machine application available in a variety of colors and quantity containers.

★ Quick Laboratory Service On Your Problem Markings

★ To Permanently Mark . . . Metals, Plastics, Glass, Wood, Paper, Leather, Ceramics—glazed, varnished or lacquered surfaces and virtually every other known material.

For Complete Information Phone BAker 5-8201 or write:

PHILLIPS PROCESS CO. INC.
192 MILL STREET
ROCHESTER 14, N. Y.

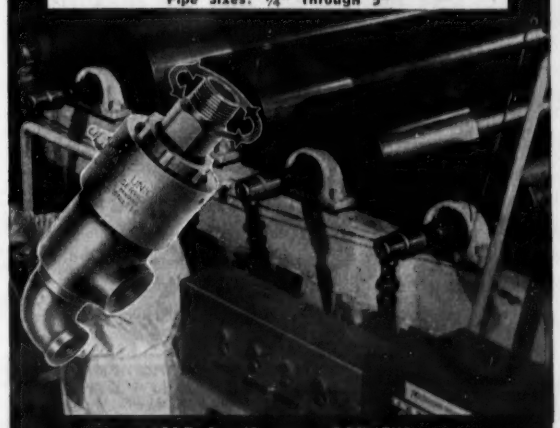
▲ For more details circle NED-159 B9 on enclosed inquiry slip ▲

Unmatched for dependability the ROTARY UNION*

Where exact temperatures must be maintained as on this plastic film drier, the ROTARY UNION is without an equal. It is self-adjusting to pressure, self-aligning to stress and strain, and requires no mechanical adjustments. This superb rotating joint is delivering long-lasting and extremely reliable service under the most critical conditions.

Wherever rotating connections are required for heating or cooling, you will find that the ROTARY UNION is your most dependable joint. Write for Bulletin 700.

Pipe Sizes: ¼" through 5"



"WHERE Good Connections COUNT"
PERFECTING SERVICE COMPANY, 332 Atando Ave., Charlotte, N.C.
Baltimore—Buffalo—Camden, N. J.—Chicago—Cleveland—Los Angeles
New York—Providence—Hamilton, Ont.—Montreal—Toronto

▲ For more details circle NED-160 B9 on enclosed inquiry slip ▲

NEW! Rapistan® ASSEMBLY-LINE CONVEYOR

A conveyorized work table with "built-in flow", Rapistan's economical Model 1050 horizontal power belt unit is ideal for assembly, testing, sorting and packing operations. Available in lengths from 5' to 60', belt widths from 4" to 24", with ample work surfaces provided parallel to belt. Reversible belt travel. For permanent or portable installations.

SPECIFICATIONS
Write for Model 1050 Bulletin

Rapistan® new ideas in materials handling
The RAPIDS-STANDARD CO., Inc.
600 Rapistan Bldg., Grand Rapids 2, Mich.

▲ For more details circle NED-161 B9 on enclosed inquiry slip ▲

Lewis Stack-n-Nest® TOTE PANS

IN SIZES TO HANDLE EVERY PRODUCT

16 x 10 x 5
18 x 12 x 6
18 x 12 x 8
22 x 14 x 8
22 x 17 x 10*
27 x 16 x 11
34 x 24 x 19
39 x 19 x 14

*New addition to the line.

WITH ACCESSORIES FOR GREATEST VERSATILITY

PAN COVERS
• Molded of Fiberglass Reinforced Polyester in colors to match pans • Snug fit — keeps out dust and dirt • "Contour offset" for safe, high stacking of covered pans • Nest when not in use • Use as trays if desired • Popular sizes — fit the 22x14x8" and 27x16x11" Stack-n-Nest pans.

DOLLIES
• Molded of Fiberglass Reinforced Polyester in colors to match pans • Four heavy-duty, easy-rolling swivel casters • "Contour offset" for safe, secure stacking of pans • Quick, easy multiple handling and movement — loaded or empty • Rugged construction for big pay loads • Popular sizes — fit the 22x14x8" and 27x16x11" Stack-n-Nest pans.

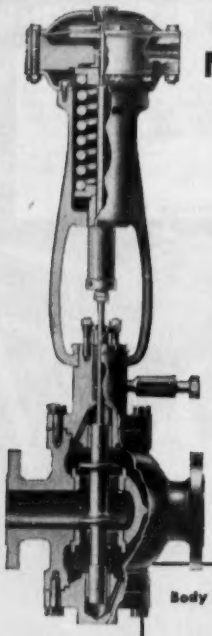
G.B. Lewis COMPANY
Dept. NED
Watertown, Wisconsin

STACK-n-NEST PANS PATENTED 2,823,828 2,823,829

▲ For more details circle NED-162 B9 on enclosed inquiry slip ▲

For Accurate, Dependable Differential Pressure Regulation

Masoneilan No. 525D



For steam, gas or liquid service, this Masoneilan Differential Pressure Regulator is used for maintaining discharge pressure in excess of a reference pressure by an adjustable amount. Single Seated Valve No. 535D is recommended for tight shut-off.

Condensed specifications are below. For further information send for Catalog No. 77 or contact your local Mason-Neilan distributor.

MASON-NEILAN
Division of Worthington Corporation
69 Nahatan St., Norwood, Mass.

A HIGH Q PRODUCT

CONDENSED SPECIFICATIONS:
Body Ratings: From 125 psi @ 365°F. to 600 psi @ 800°F.
Sizes: ½" to 4"
Materials: Iron or steel bodies with screwed or flanged connections
Ranges: Low pressure head — between 3 and 125 psi. High pressure head — between 3 and 330 psi

Order from your Mason-Neilan distributor — use his experience — save work — save time.

▲ For more details circle NED-163 B9 on enclosed inquiry slip ▲

DESIGNERS: HERE'S NEW DATA ON THREAD CUTTING

STYLE AND SIZES FOR ALL MACHINES ON WHICH THREADS ARE CUT

This die head is unique

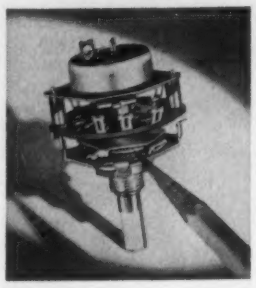
THERE IS NO OTHER LIKE IT

It cuts threads with insert chasers. These are, in reality, small sections of the business end of large and expensive chasers, but with this important difference: *their cost is so low they can be even thrown away when dull.* For example, for less than $50 you can get a dozen sets of insert chasers, each set ground ready to go. Change now to insert chaser die heads and watch your performance improve. "UNIFIED AND AMERICAN SCREW THREAD DIGEST" sent free on request.

THE EASTERN MACHINE SCREW CORP.
28-48 Barclay St., New Haven, Conn.

▲ For more details circle NED-164 B9 on enclosed inquiry slip ▲

SPRING-RETURN SWITCH
alloy spring built into index



This Centralab PA-070 spring-return switch has an alloy steel spring built into the index mechanism. Switches can be supplied as single or double section units, or as single section units with line switch. Up to six positions per section, including the spring-return position, are available. Sections are laminated phenolic Type PBE. Voltage breakdown is 1000 v rms. Made by Globe-Union Inc., Centralab Div., 900 E. Keefe Ave., Milwaukee 1, Wis.

▲ For more details circle NED-165 B9 on enclosed inquiry slip ▲

LETTERING TOOL
adjustable for height and slant

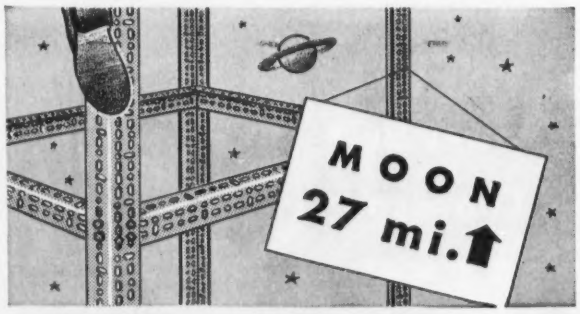
This Leroy Scriber can be adjusted to form template characters of varying heights and slants, latter ranging from vertical to 45 degrees forward. Heights of letters can be from 60 to 150 per cent of the size of the figures on the drawing template. Tool accepts pens from −0000 to −8 and can be used with Leroy lettering templates up to size −500 C. Available from Keuffel & Esser Co., Adams & Third Streets, Hoboken, N. J.

▲ For more details circle NED-166 B9 on enclosed inquiry slip ▲

EXECUTIVE WALL CHART
can show sales, production, costs

Sales, production, costs, or inventory activity can be graphically shown by this Execu - flex wall chart which is easy to change and keep up to date. Chart is a walnut panel set off against a black lacquer base and measures 28 x 40 in. A permanent grid allows for nearly any type of charting and helps align boxes or plot figures for bars and graphs. Kits A, B, and C supplied with the chart provide pressure-sensitive letters, numbers, strips of paper for typing organizational boxes, tapes, and other materials in contrasting colors. Price is $87.50, including kit of materials. Made by Chartmakers, Inc., Dept. 101, 480 Lexington Ave., New York 17, N. Y.

▲ For more details circle NED-167 B9 on enclosed inquiry slip ▲



YOU CAN DO ANYTHING... WITH FLEXANGLE

Chances are your problem's a down-to-earth project of racking... storage... crating... platforming. FlexAngle's the perfect framing material for you. Here's why.

• No drilling, welding, painting
• No special training needed
• Cut every ¾" with exact fits
• No waste
• No expensive accessories
• Lay out, measure, cut, bolt on spot

WRITE FOR FREE BULLETIN

FLEXANGLE CORPORATION
3762 OAKWOOD AVE. P. O. BOX 418 YOUNGSTOWN 1, OHIO

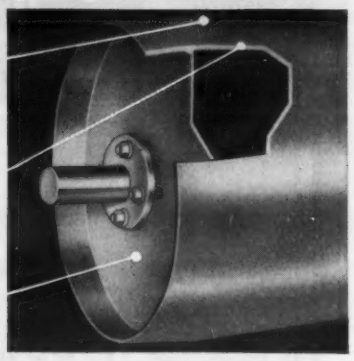
▲ For more details circle NED-168 B9 on enclosed inquiry slip ▲

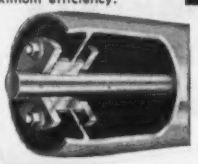
NEW CURVE CROWN WELDED ALL-STEEL PULLEYS
STEPHENS-ADAMSON

*CURVE CROWN DESIGN
Accurately formed Curve Crown on rim outer ends eliminates belt stretch and wear . . . increases belt training effect more than 100%.

STURDY RIM CONSTRUCTION
Absolutely round one piece pulley rims formed under hydrostatic pressure. Seam machine-welded inside and out insures 100% weld penetration.

ACCURATE END PLATE ASSEMBLY
End plates O.D. and I.D. machined to insure concentricity between bore and outer rim. Pressed fit . . . submerged arc welding for maximum efficiency.





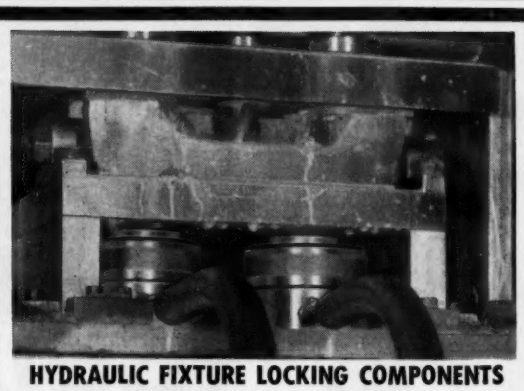
FEATURING "SQUEEZELOCK" HUB DESIGN
Revolutionary "Squeezelock" Hub design provides gripping power for full torque transmission without keyways plus eliminating distorting loads against pulley end plates.

*PATENT APPLIED FOR

S-A

WRITE FOR BULLETIN 558
STANDARD PRODUCTS DIVISION
STEPHENS-ADAMSON MFG. CO.
12 RIDGEWAY AVENUE • AURORA, ILLINOIS
PLANTS LOCATED IN: LOS ANGELES, CALIFORNIA
CLARKSDALE, MISSISSIPPI • BELLEVILLE, ONTARIO

▲ For more details circle NED-169 B9 on enclosed inquiry slip ▲



HYDRAULIC FIXTURE LOCKING COMPONENTS BOOST MACHINE OUTPUT!

• COMPACT—BUILD INTO FIXTURES EASILY
• AUTOMATE YOUR FIXTURES FOR FRACTION OF "DO-IT-YOURSELF" COST!
• ULTIMATE SPEED IN WORK LOADING
• GREATER LOCKING FORCE THAN ANY OTHER METHOD
• A PERMANENT INVESTMENT—TRANSFERS FROM FIXTURE TO FIXTURE
• SINGLE OR MULTIPLE LOCKING HEADS AVAILABLE WITH MATCHING AIR-HYDRAULIC BOOSTER SYSTEMS.

Write for free full scale templates and new literature! Attach this ad to your letterhead and mail TODAY.
Order now from your stocking Industrial Distributor

WILTON
WILTON TOOL MFG. CO. INC. NED 29
SCHILLER PARK, ILLINOIS

▲ For more details circle NED-170 B9 on enclosed inquiry slip ▲

FREE! Comparative Coating Chart
Keys Maintenance Coatings to Your Job

Many so-called "cheaper" maintenance coatings are actually expensive, because of premature failures, costly repainting. And no one coating system can assure protection in all chemical environments.

New comparative coating chart shows how Carboline's maintenance coating systems are keyed to specific corrosive environments — tailor-made for a particular requirement, with maximum protection for the longest time at the lowest cost per square foot per year of service.

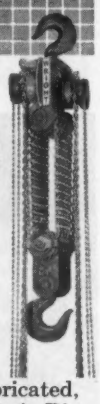
Write today for your free copy — an essential engineering aid in choosing the proper protection.

carboline COMPANY
32-J Hanley Industrial Ct.
St. Louis 17, Mo.
Specialists in Corrosion Resisting Synthetic Materials

▲ For more details circle NED-171 B9 on enclosed inquiry slip ▲

WRIGHT SAFEWAYS

Your Best Buy for Rigging and Maintenance Work



12 Sizes
½-ton to 50 tons

Bulletin 412A gives complete details on the many outstanding features that make Wright Safeways your best buy for long, trouble-free life. Write York, Pa. for your copy.

Some Safeway Features

Load Chain is finest alloy, every foot proof-tested...heat treated for hard wear-resistant working surface...ductile to withstand shock loads..."wick" lubricated...anti-rust zinc coat.

Load and Idler Sheaves rotate on life-lubricated, antifriction bearings...minimum of 5 pockets in Big Sheaves for efficiency and long life.

Gears, Pinions, Drive Spindle (also top and bottom Hooks) are nickel-chrome-molybdenum alloy steel mounted on heavy-duty, antifriction bearings. *Gear Train* is enclosed in oil-tight chamber.

Load Brake is Weston type, silent, dependable.

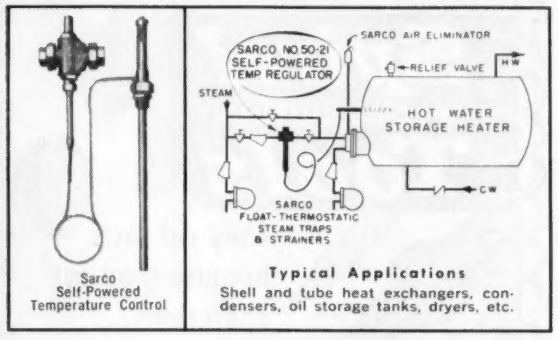
Steel Housing fully protects vulnerable parts.

Wright Hoist Division
AMERICAN CHAIN & CABLE

ACCO

York, Pa., Atlanta, Chicago, Denver, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

▲ For more details circle **NED-172 B9** on enclosed inquiry slip ▲



Sarco Self-Powered Temperature Control

Typical Applications
Shell and tube heat exchangers, condensers, oil storage tanks, dryers, etc.

Low-cost • Automatic

TEMPERATURE CONTROL

½" size—only about $100

Simple as ABC . . . a thermostat with capillary tubing and a valve. That's all! That's why this Sarco SELF-POWERED temperature control is so trouble-free . . . and inexpensive.

1. No gadgets needing a technician to read and repair.
2. Self-contained—no exposed mechanism. Packless valve.
3. Self-powered—no compressed air or electricity needed.
4. Not affected by cross-ambient temperatures or elevation of the bulb.
5. Easy to install by any pipefitter.
6. Thousands give accurate service...for firms like Colgate-Palmolive Co., Sinclair Refining Co., Swift & Co.

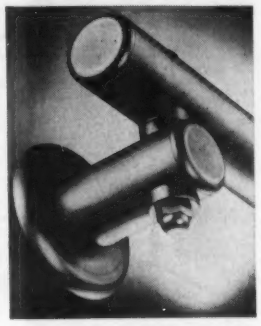
Write for Bulletin 620 to Sarco Co., Inc., 635 Madison Ave., New York 22, N. Y.

2239-F

SARCO

▲ For more details circle **NED-173 B9** on enclosed inquiry slip ▲

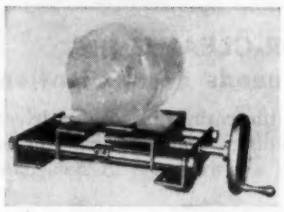
ALUMINUM HANDRAILS
accommodate any stair angle



Rail-to-post assembly, wall bracket connection, and base flange of this aluminum handrail system are made of precision machined components for accurate fit. Designed for industrial and commercial uses, the railing will accommodate any stair angle. Friction joints and mechanical fasteners facilitate field assembly. Bolt anchorage to walls and floors is concealed. Components have a natural aluminum finish, but can be obtained with a natural or colored Alumilite treatment for a bright appearance. Made by **Aluminum Co. of America**, 1501 Alcoa Bldg., Pittsburgh 19, Pa.

▲ For more details circle **NED-175 B9** on enclosed inquiry slip ▲

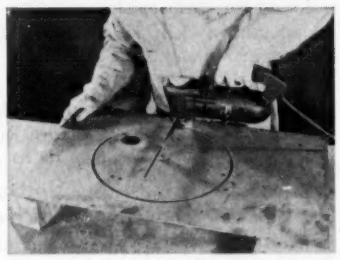
SMALL-MOTOR BASES
in 4 and 5-in. bed travel sizes



Hand-wheel and screw adjustment of these Rampe SB small-motor bases assure positive settings without slippage. Smooth sliding action is provided by the rigid guide rods. Model SB-2L with 5-in. bed travel measures 7½ x 17 in. and handles ½, ¾, and 1-hp motors. Slightly smaller Model SB-2S with 4-in. bed travel takes ⅓-hp motors. Locknuts limit bed movement. Made by **Rampe Mfg. Co.**, 14915 Woodworth Ave., Cleveland 10, Ohio.

▲ For more details circle **NED-176 B9** on enclosed inquiry slip ▲

NIBBLER ATTACHMENT
for cutting circles to any diameter



Perfect circles can be cut with any model Fenway portable electric nibbler using this attachment available in standard lengths of 12 and 24 in. Extensions can be added for any increased radius. The 15-in. circle shown was cut in 4½ min including make-ready. Attachment costs $14.75, whereas nibblers range in price from $129 to $349, depending on the model. The 13-lb Model HN nibbler will cut 10-gage metal, and the Model MN has a 14-gage stainless steel capacity. Distributed by **Pensco Products**, 527 Lexington Ave., New York 17, N. Y.

▲ For more details circle **NED-177 B9** on enclosed inquiry slip ▲

FREE ANALYSIS
OF YOUR DIFFICULT MACHINING PROBLEMS

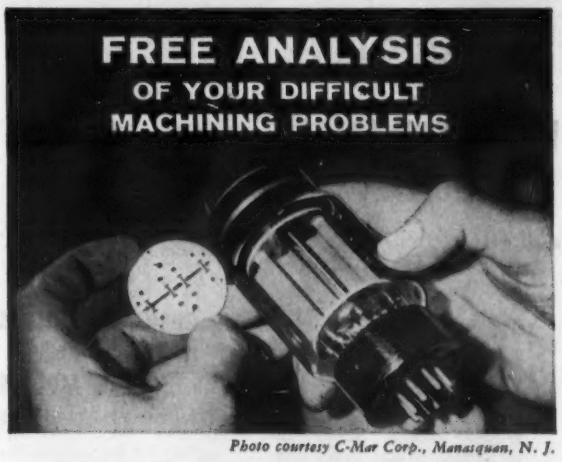


Photo courtesy C-Mar Corp., Manasquan, N. J.

23 HOLES AND SLOTS DRILLED IN CERAMIC AT ONCE!

PROBLEM: drill 23 holes and slots in mica radar tube spacers repeatedly with exact spacing. **SOLUTION:** A Raytheon Ultrasonic Impact Grinding Analyst recommended using ceramic spacers instead; making the 23 cuts simultaneously. Tool was made with template to hold pieces while brazing to Impact Grinder tool cone. **RESULT:** spacers with .001" accuracy; tube life doubled.

HOW YOU CAN BENEFIT—Whatever your difficult cutting, slicing, drilling, engraving or shaping problems—in hard or brittle materials—see your Raytheon Impact Grinding Analyst. Write Dept. NW1

RAYTHEON

A-2108

RAYTHEON MANUFACTURING COMPANY
Commercial Equip. Div., Industrial Products Dept., Waltham, Mass.

▲ For more details circle **NED-178 B9** on enclosed inquiry slip ▲

HOW'S THIS FOR SPEED?

Rapid Fire, Self-Feeding Bostitch H2B Stapling Hammer

One man with a Bostitch H2B Stapling Hammer does 2 to 4 times more than a man with hammer and tacks.

There's no time out for slow starting blows. No fumbling for tacks. No dangerous tack spitting.

The H2B operator loads a strip of 160 staples in about five seconds. He's ready to go. Every blow drives a staple deep into the work. One hand is free to improve his balance or to position the work. Results are better and neater—at far less cost.

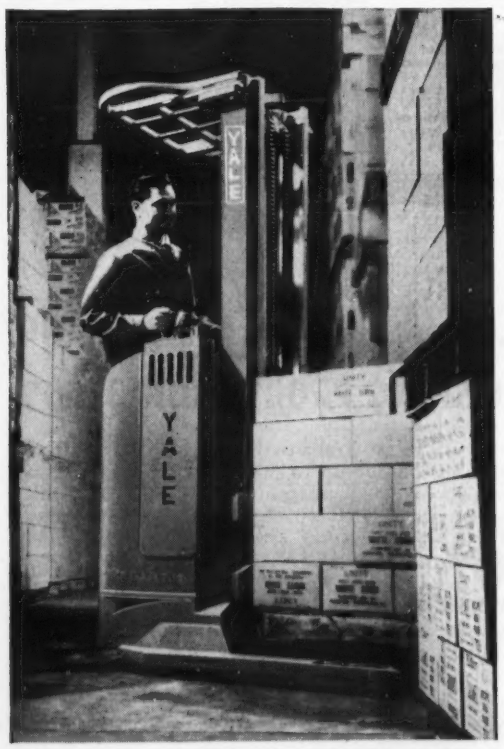
Test the Bostitch H2B in your plant. You'll save time and money wherever you need medium-duty tacking on a volume or quality basis. Two models. Staples come in ¼", ⅜" or ½" size. H2B is lightweight, scientifically balanced. Ruggedly built and cadmium plated for long wear.

FREE TRIAL OFFER and literature—A Bostitch Economy Man will arrange a no-obligation trial of the money-saving H2B in your plant. Circle our number on the reader service card in this publication. Or write direct: Bostitch, 682 Briggs Drive, East Greenwich, Rhode Island.

Fasten it better and faster with

BOSTITCH
STAPLERS AND STAPLES

▲ For more details circle **NED-179 B9** on enclosed inquiry slip ▲



NEW YALE WAREHOUSER BUILDS PROFITS 3 WAYS

(1) 24-volt system speeds operation cycles (2) Advanced design increases operator efficiency (3) Rugged construction means more time on the job

MORE POWER—full 24-volt battery provides faster lift and travel—increases variety of hydraulic attachments that may be used. Conventional 12-volt models also available.

LESS DOWNTIME. All components in one compartment that opens wide...to minimize maintenance time.

LASTING DURABILITY. Frame, chassis, outriggers and channels are a single welded unit. Ruggedness increases ride stability.

EXTRA PROTECTION. Access doors of components hinged in positions of protection from bumping—no sprung doors.

BETTER VISIBILITY. Operator position and compact design provide better visibility.

CONVENIENT CONTROLS—steering wheel with directional compass and contoured handle. Convenient pistol-grip controls.

NARROW AISLE MANEUVERABILITY. Operates in aisles as narrow as 6' wide.

CAPACITIES: 2,000, 3,000 and 4,000 lbs. Straddle and Extend-A-Fork models.

Contact your Yale representative—or write for brochure #1535H. The Yale & Towne Manufacturing Co., Yale Materials Handling Division, Philadelphia 15, Pa., Dept. RT-1H.

YALE®
INDUSTRIAL LIFT TRUCKS
TRACTOR SHOVELS • HOISTS
YALE & TOWNE

GASOLINE, ELECTRIC, DIESEL AND LP-GAS INDUSTRIAL LIFT TRUCKS • WORKSAVERS
WAREHOUSERS • HAND TRUCKS • INDUSTRIAL TRACTOR SHOVELS • HAND, AIR AND ELECTRIC HOISTS

▲ For more details circle **NED-174 B9** on enclosed inquiry slip ▲

Multiform

BIG BROTHER BENDER

Illustrated above are a few of the many forms that can be produced efficiently on the Multiform Bender.

Model BBB

SMALLER MODELS AVAILABLE

AIR OPERATED MODELS IN FOUR SIZES
HYDRAULIC—3 MODELS

The heavy duty Big Brother Bender is designed for fabricating bus bars, brackets, fixtures, etc., without special tooling. Air controlled with finger tip response. Comes complete with dies, mandrels and wrenches—punching and blanking dies extra. Will punch holes up to 1" and form material up to ¼" thick by 4" wide. We also build smaller models, hand or air operated, for bending materials up to ⅛" x 1½".

Send for illustrated folder M6

J. A. RICHARDS CO. Myrtle & Pitcher Sts. Kalamazoo, Mich

▲ For more details circle NED-180 B9 on enclosed inquiry slip ▲

No fumes, smoke, excess water . . . with NEW E-350 all electric Jenny®!

CLEAN AND JENOLIZE

New electrically heated and powered Jenny is ideal for use wherever open flames, fumes, smoke, or excess water is objectionable or hazardous. The E-350 cuts costs of cleaning machinery parts or equipment for maintenance, repair or repainting by 60-80%!

And with the new Jenolizing process, machinery equipment and parts are left with a coating that protects against flash rusting and gives a glossy, like-new appearance to painted surfaces. Write today for complete facts about the all-new electric Jenny and Jenolizing.

hv **HOMESTEAD VALVE MANUFACTURING COMPANY**
Hypressure Jenny Division, P. O. Box 84, Coraopolis, Pa.

▲ For more details circle NED-181 B9 on enclosed inquiry slip ▲

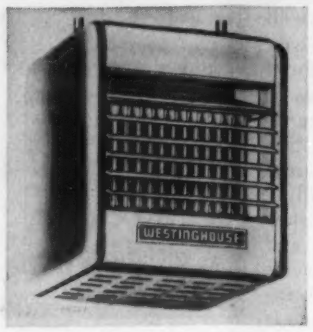
NEED DRAWN or EXTRUDED ALUMINUM TUBE?

WRITE

WOLVERINE TUBE
DIVISION OF CALUMET & HECLA, INC.
17272 Southfield Road
Allen Park, Michigan
Manufacturers of Quality Controlled Tubing and Extruded Aluminum Shapes

▲ For more details circle NED-182 B9 on enclosed inquiry slip ▲

GAS-FIRED UNIT HEATERS
ten sizes have adjustable louvers

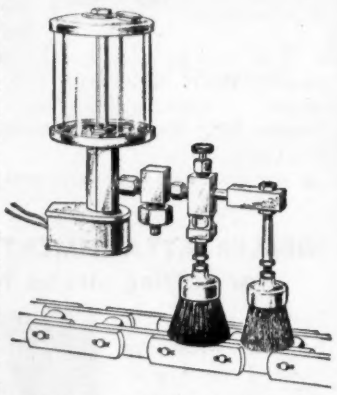


Manufactured, natural, mixed, and liquid petroleum gases and liquid petroleum gas - air mixtures can be burned in line of unit heaters. Offered in ten sizes from 25,000 to 250,000 Btu per hr, they have cast iron combustion air adjustment shutters. Adjustable louvers permit variation of discharge air to requirements. Combustion occurs within the individual tubes of a contoured, aluminized steel heat exchanger. The 115-v, 60-cycle, single phase fan motors have automatic reset thermal overload protection. Seven smaller units have permanently lubricated shaded-pole motors and the three larger units have capacitor motors. Made by **Westinghouse Electric Corp.**, Sturtevant Div., Dept. T-402, 200 Readville St., Hyde Park, Boston 36, Mass.

▲ For more details circle NED-183 B9 on enclosed inquiry slip ▲

CHAIN LUBRICATOR-CLEANER
brushes match needs of application

Automatic cleaning and lubricating of chain drives operating in dirty surroundings are done by line of lubricator-cleaners. Brushes are available in horsehair for normal lubricating applications, nylon for higher speeds and wear resistance, and stainless steel for high temperature service. Sizes include ⅝, 1, and 1½-in. round and ⅜ x 2¼-in. rectangular brushes. A stainless steel brush precedes the lubricating brush and wipes the chain clean, followed by metered brush-application of a protective film of oil. Types are available for all chains. Made by **Oil-Rite Corp.**, 2364 Waldo Blvd., Manitowoc, Wis.

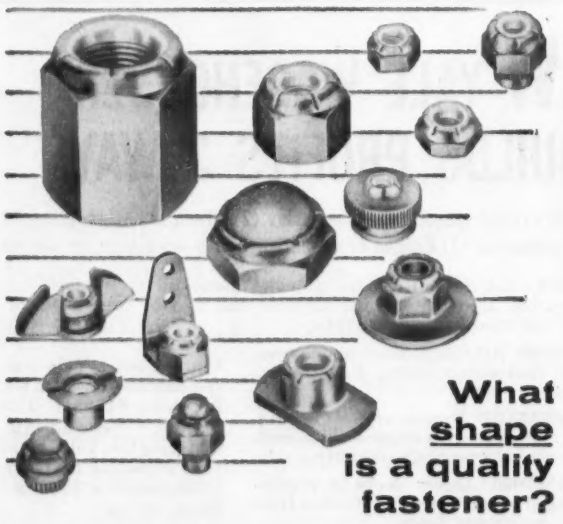


▲ For more details circle NED-184 B9 on enclosed inquiry slip ▲

Basic Concepts of Material Handling

"Basic Concepts of Industrial Material Handling" is title of 16-page booklet, the first in the "Library of Know-How" to be made available. It has been rewritten since it was first published in 1952 to reflect current trends. Booklets 2, 3, and 4 are still available. Single copies are available free of charge, and a nominal charge is made for quantities. Material Handling Institute, 1 Gateway Center, Pittsburgh 22, Pa.

▲ For more details circle NED-185 B9 on enclosed inquiry slip ▲



What shape is a quality fastener?

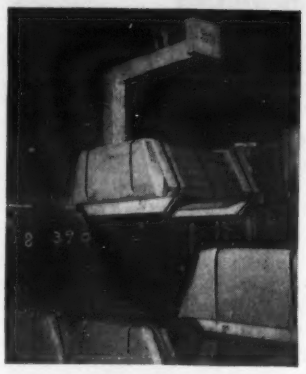
Here is a handful of ELASTIC STOP® nuts. Each has ESNA's familiar red locking collar*. . . is vibration-proof and made of the finest materials. Each is exactly controlled as to finished dimensions, class of thread fit and finish . . . with an unmatched record for uniformly high quality. **Most of them are standard parts . . .** some originated as a result of a specific request for ESNA's assistance. So . . . for help on *your* next fastening problem, send us the details of your application. Write Dept. S1-237.

**The red locking collar is a Registered Trade Mark of ESNA.*

ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, New Jersey

▲ For more details circle NED-186 B9 on enclosed inquiry slip ▲

AS LITTLE AS $285 MAKES YOUR HOISTS and CRANES into Fork Lifts



You can now handle pallet and other unit loads where fork trucks are too expensive or impractical. America's foremost industries are saving thousands of dollars in first cost, handling cost, operating cost, and maintenance cost with Cady Pallet Lifters. Repeat orders from users everywhere are proof of satisfaction and economy. Counterbalanced to hang level, they are easy to use, save time and reduce non-productive handling costs in plants, in yards, on docks, and on job sites. Standard models up to 10,000 lbs. capacity—custom models to fit special loads and conditions. Write or phone JAckson 4145 for full information and name of distributor.

CADY METAL FABRICATING INC.
84 SCHENCK ST. • N. TONAWANDA, N. Y.

▲ For more details circle NED-187 B9 on enclosed inquiry slip ▲

Spiral SPECIAL CUTTING Tools

They cut costs because they cut operations... 75% or more!

Custom-designed and precision-made exactly to fit your needs. Spiral Tools boost output and quality. Ask for details.

SHARPEN END MILLS
Quickly, Completely, IN YOUR OWN SHOP

For grinding or milling of any spiral lead. Pays for itself in a hurry. Send for facts today.

Super MULTI-SPIRAL END MILL GRINDING FIXTURE

SPIRAL STEP TOOL COMPANY

Designers and Manufacturers of All Types of Special Cutting Tools
5400 N. Damen Ave. • Chicago 25, Ill.
Phone: LOngbeach 1-5384

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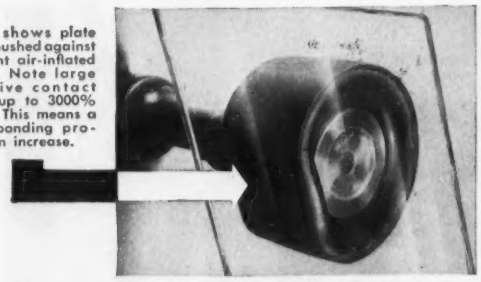
Photo shows plate glass pushed against resilient air-inflated wheel. Note large abrasive contact area—up to 3000% more! This means a corresponding production increase.

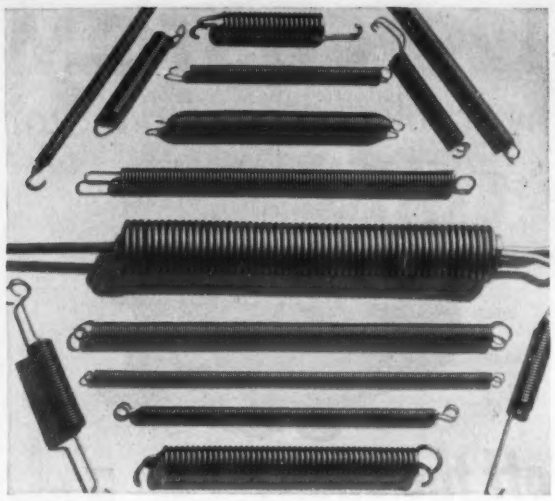


. . . how to INCREASE BUFFING, POLISHING PRODUCTION 3000%

• You can boost your buffing and polishing output up to 3000% on flat work . . . and 600 to 700% on contours . . . by using this resilient air-inflated wheel. Many other advantages such as — *no chatter or bounce . . . eliminates under-cuts . . . produces a straight pattern similar to a hand finish.* For use on portable tools or bench-stands—wherever ordinary polishing wheels are used. Send NOW for free literature and name of distributor nearest you.

NU-MATIC GRINDERS, INC.
8224 Carnegie Ave. RAndolph 1-0980 Cleveland 3, Ohio
DETROIT—University 3-3376 • NEW YORK—Barclay 7-0196
CHICAGO—Tuxedo 9-4300
CANADIAN DISTRIBUTOR—Wm. Orlick, Ltd., Hamilton, Ontario

▲ For more details circle NED-189 B9 on enclosed inquiry slip ▲



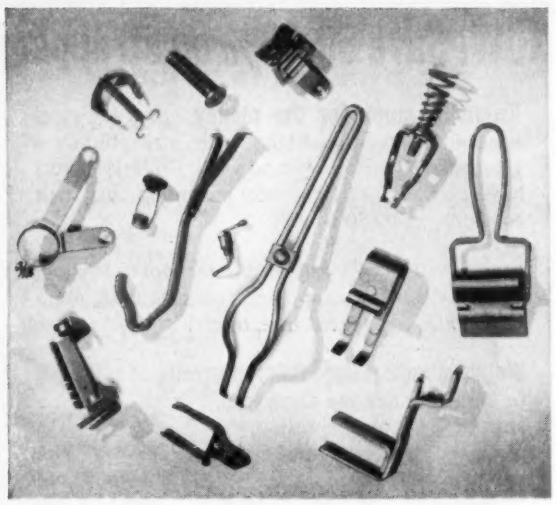
Extension Springs

All types and sizes custom made to meet your performance requirements. Wide range of end coil treatment, hooks and loops. Also swivel end and drawbar types. Precision made to hold dimensions and load carrying capacity. Send for pamphlet "Spring Design and Selection—in brief."

Associated Spring Corporation
General Offices
Bristol, Connecticut

5821

▲ For more details circle NED-190 B9 on enclosed inquiry slip ▲



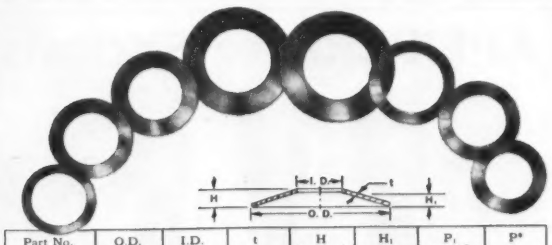
Spring Assemblies

Partial or complete assemblies delivered ready to use. Combinations of round or flat wire springs, wire forms, stampings . . . punched, riveted, spot welded or assembled under spring tension. Springs also assembled with parts furnished by customer. Save equipment and labor costs. Use our convenient, ready-to-go facilities.

Associated Spring Corporation
General Offices
Bristol, Connecticut

5829

▲ For more details circle NED-191 B9 on enclosed inquiry slip ▲



Part No.	O.D. (max.)	I.D. (min.)	t	H (approx.)	H_1	P_1 ±10%	P*
375-15	.375	.190	.015	.027	.021	35	55
375-20	.375	.190	.020	.030	.025	60	110
500-18	.500	.255	.018	.034	.026	45	70
500-25	.500	.255	.025	.038	.031	95	160
625-22	.625	.317	.022	.042	.032	70	105
625-32	.625	.317	.032	.048	.040	145	260
750-28	.750	.380	.028	.051	.039	110	175
750-40	.750	.380	.040	.059	.049	235	415
1000-35	1.000	.505	.035	.067	.051	175	260
1000-50	1.000	.505	.050	.075	.062	340	600
1250-40	1.250	.630	.040	.082	.061	230	330
1250-62	1.250	.630	.062	.092	.077	475	870
1500-45	1.500	.755	.045	.093	.069	284	400
1500-72	1.500	.755	.072	.107	.089	665	1180

*P Calculated Load at Flat Position

Stock Sizes of Belleville Washers

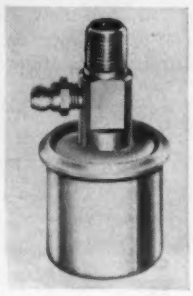
The sizes listed above are designed primarily for high loads in limited space. Residual stresses are introduced during manufacture; washers can be compressed to flat position and released without loss of free cone height. Good fatigue life may be expected between slight preload and "H_1". Send for stock washer pamphlet giving complete information.

Associated Spring Corporation
General Offices
Bristol, Connecticut

5841

▲ For more details circle NED-192 B9 on enclosed inquiry slip ▲

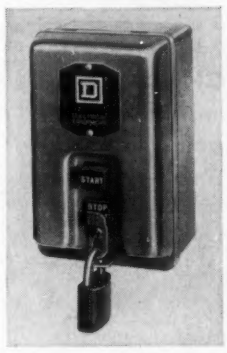
AUTOMATIC BEARING LUBRICATOR
injects grease only as needed



Bearings are lubricated only as they need grease by the TMCO automatic lubricator which is installed one to each bearing by removing the grease fitting and screwing the lubricator in place. Unit measures 2¼ in. long by 1⅛ in. diameter and operates in any position. It is filled by any standard grease gun. Combination of bearing vacuum and spring pressure discharges only enough grease to replace the amount used in the bearing. Position of the pressure cup signals the amount of grease remaining in the reservoir. Price is $18.25 per dozen. Made by **Anchor Chemical Co.**, 10723 Briggs Rd., Cleveland 11, Ohio.

▲ For more details circle NED-193 B9 on enclosed inquiry slip ▲

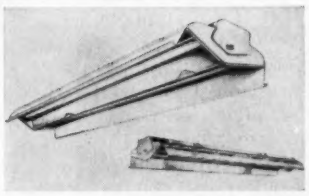
MANUAL STARTERS
have external lockoff arrangement



The external lockoff arrangement, now standard on Square D manual starters in general-purpose enclosures, provides extra safety and makes it possible to lock starter in off position without removing the cover. General-purpose manual starters are now furnished with both an internal lockoff on the operating mechanism and the external lockoff which combines both cover lockout and button lockoff features. Made by **Square D Co.**, 4041 N. Richards St., Milwaukee 12, Wis.

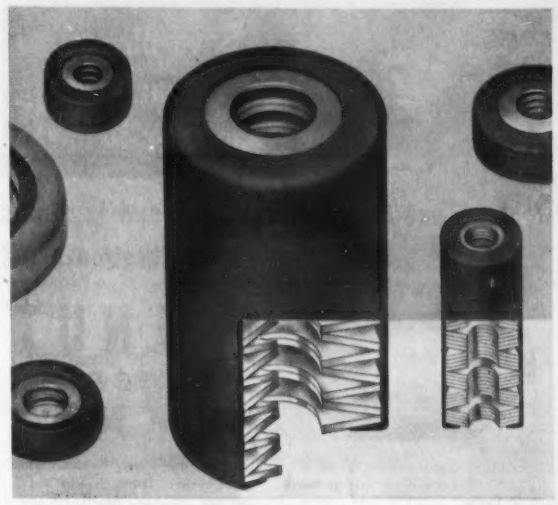
▲ For more details circle NED-194 B9 on enclosed inquiry slip ▲

FLUORESCENT LIGHT FIXTURES
color-coded to identify plant areas



Wyteliner industrial fluorescent fixtures for 430, 800, or 1500-ma operation are color-coded to mark or identify specific plant areas. The Kolorkoded units feature formed, colored side windows that are interchangeable on the job. Red units can be used to identify exits and fire protection equipment; green luminaires for general aisles, traffic lanes, and safe through-passageways; and yellow fixtures, to identify stairs, curbings, dead ends, or other dangerous areas. The 800-ma units use new HO high output lamps, whereas 1500-ma units have VHO, SHO, or Power Groove lamps. Fixtures with either 10 or 25 per cent uplight, and with 13 or 27 per cent shielding are offered. Made by **Edwin F. Guth Co.**, 2615 Washington Blvd., St. Louis 3, Mo.

▲ For more details circle NED-195 B9 on enclosed inquiry slip ▲



Flexi-Pak ELASTIC COVERED† Energy Cartridges

Energy Cartridges are available in Flexi-Pak form, with molded rubber, neoprene, or other elastic covering instead of rivets. For use on belleville washers with narrow walls, or where there are clearance restrictions, and to insure correct sequence of washers in handling. Write for pamphlet "Flexi-Pak elastic-covered† Energy Cartridges" (†U.S. Pat. 2,432,717).

Associated Spring Corporation
General Offices
Bristol, Connecticut

5842

▲ For more details circle NED-197 B9 on enclosed inquiry slip ▲

Small Stampings

Simple or intricate shapes punched, bent, crimped from all types of metals, including spring steel. Properly heat-treated to hold tolerances and working range. Our toolmakers are skilled in designing economical production set-ups for small or large orders. Send sample or specifications for quotation.

Associated Spring Corporation
General Offices
Bristol, Connecticut

5823

▲ For more details circle NED-198 B9 on enclosed inquiry slip ▲

Engineering, manufacturing, and sales facilities located coast-to-coast for custom service on all your requirements

BRISTOL, Conn.
Wallace Barnes Division
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The Wallace Barnes Company Ltd.
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The Wallace Barnes Company Ltd.
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40300 Plymouth Road

ANN ARBOR, Mich.
B-G-R Division
401 East Stadium Boulevard

CHICAGO 14, Ill.
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MILWAUKEE, Wis.
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341 East Erie Street

LOS ANGELES, Calif.
Seaboard Pacific Division
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Sales Office
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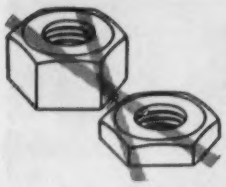
Saratoga, Calif.

Wallace Barnes Steel Division
Bristol, Conn.
High Carbon Strip Steel

Associated Spring Corporation

General Offices
Bristol, Connecticut

▲ For more details circle NED-196 B9 on enclosed inquiry slip ▲



Save 65¢ on each Fastener Dollar!

Replace expensive, heavy nuts and jam nuts with low-cost, vibration-proof

PALNUT®
TYPE R
LOCK NUTS

On many applications, Type R PALNUT Lock Nuts will do the job better, at 1/3 the price. PALNUT spring tempered steel lock nuts provide rugged assembly for loads in shear and moderate tensile loads, in sizes up to 2 1/2" diameter.

In addition, you get vibration-proof assemblies—eliminate lock-washers—need only 3 bolt threads space—save from 65 to 80% fastener weight. PALNUTS provide precision thread fits—assemble fast with hand or power tools. Range of sizes from #3-48 machine screw through 2 1/2" American Standard Heavy.

Write for literature, specifications, and prices. State application and size for free samples.

THE PALNUT COMPANY, 45 Glen Road, Mountainside, N. J.
In Canada: P. L. Robertson Co., Ltd., Milton, Ont.

PALNUT® LOCK NUTS FASTENERS PAL

Quick, secure fastening at low cost

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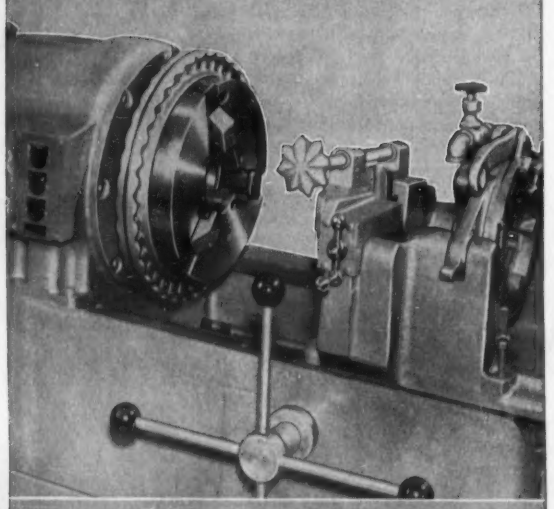
THREADS 1 TO 4-INCH PIPE WITH... NO DIE CHANGE!

BEAVER SPEED KING



Only BEAVER **HAS IT!**

Only 980 lbs.!

BEAVER

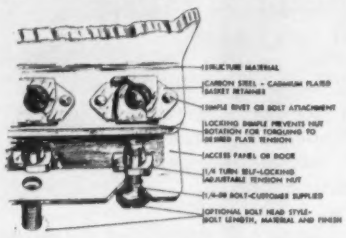
Send for complete catalog and name of nearest distributor

PIPE TOOLS, INC.
DANA AVE.
WARREN, OHIO

▲ For more details circle NED-200 B9 on enclosed inquiry slip ▲

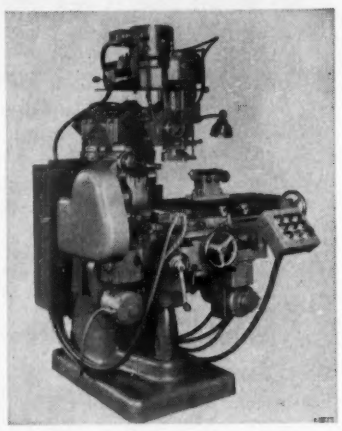
PANEL FASTENER comprises nut and basket retainer

This two-piece, quick-release panel fastener for use on access doors and removable panels of busses, trucks, or trains is simple to install and is virtually foolproof in operation. As bolt is rotated in operation, the self-locking Elastic stop nut turns from the entry slot of the basket retainer and lifts on the beveled edge of the nut lugs into the basket recess. Lifting action of nut draws up the screw and attached cover plate into firm contact with base plate at the desired preset loading. Only a quarter turn of the bolt completes the lock-unlock action. The FR fastener is presently made in 1/4-20 thread size and will be offered in the 1/4-28 thread. Made by **Elastic Stop Nut Corp. of America**, 2330 Vauxhall Rd., Union, N. J.



▲ For more details circle NED-201 B9 on enclosed inquiry slip ▲

VERTICAL MILLING MACHINES for spiral or helical milling in either of two automatic cycles



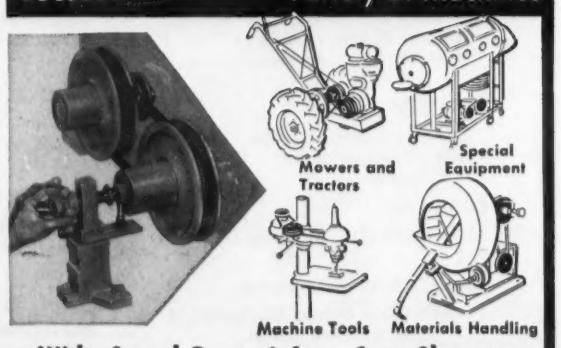
Using end mills rather than special milling cutters, this vertical milling machine performs spiral or helical milling operations. Fine finish is obtained as a manually compensated nut on the lead screw permits climb cutting to be employed in the spiral milling operation. Two automatic cycle options are offered, with others available on special order. A dividing head geared to table feed and rapid traverse return are incorporated.

Range of lead per revolution of workpiece is from 0.536 to 64.500 in. Any lead normally obtainable with a dividing head is available. Standard longitudinal travel is 20 or 26 in., depending on table size. Traverse is 10 in., vertical travel of knee is 18 in., vertical travel of spindle is 3 in., and overarm travel is 13 1/4 in.

Nine spindle speeds range from 80 to 2800 rpm. Standard table size is 40 x 9 in. Power feeds to spindle are 0.001, 0.003, and 0.006 in. per spindle revolution, and eight power feeds to table range from 3/4 to 9 1/2 in. Made by **Index Machine Co.**, 543 N. Mechanic St., Jackson, Mich.

▲ For more details circle NED-202 B9 on enclosed inquiry slip ▲

SPEED SELECTOR VARIABLE PITCH SHEAVES
Control Speeds on Variety of Machines



Wide Speed Range! Low Cost Sheaves

Speed Selector Sheaves can give your machines or equipment extra wide-range speed control on fixed centers. Efficient, rugged, simple to use — low in cost! Write for Illustrated Bulletin.

CATALOG FREE! WRITE TODAY

SPEED SELECTOR INC.
P.O. BOX 312-N • CHAGRIN FALLS, OHIO

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129 CUSTOM hydraulic pump and motor combinations . . .

off the shelf!

Here are power sources for any hydraulic application. Commercial, military, and aviation research have developed this array of standard pump and motor combinations.

With a performance range from .1 to 5 G.P.M. at pressures to 2000 P.S.I., you can expect a stock power source that fits your requirements. Many types of motors offer a choice of electrical characteristics, and are drip-proof, totally enclosed, or have explosion-proof enclosures as required.

When you need custom equipment, call on Eastern and discover how this adaptable line of hydraulic pumps and motors fills the bill without research expense by you.

For full performance data on pump and motor combinations, write for new Bulletin 810-X.

Eastern INDUSTRIES, INC.
100 SKIFF ST., HAMDEN 14, CONN.

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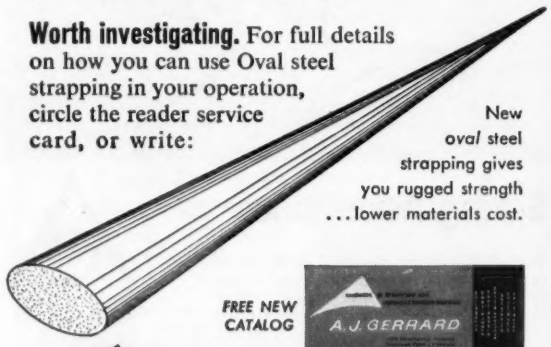
NOW! Save 50-80% on strapping

Twice as much for the money . . . Oval steel strapping gives you high tensile strength . . . a greater lineal feet per pound yield. Countless users have proved that Oval steel strapping cuts their strapping costs 50 to 80%.

Easier to use. All you need is *one* tool to tension, twist and cut the strapping. You save time, manpower and equipment investment.

Worth investigating. For full details on how you can use Oval steel strapping in your operation, circle the reader service card, or write:



New *oval* steel strapping gives you rugged strength . . . lower materials cost.

FREE NEW CATALOG

A.J. GERRARD AND COMPANY
1954 Hawthorne Blvd. • MELROSE PARK, ILLINOIS

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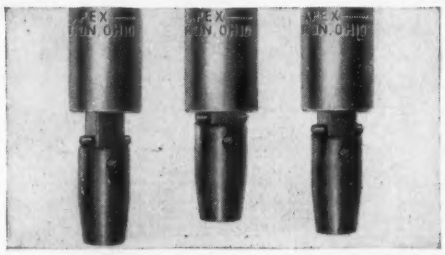
APEX Cluster Sockets



for multiple tool fastening

The Apex cluster socket, specifically designed for multiple tool applications, automatically compensates for any variation in fastener height. As the bank of power tools moves up to the fasteners, the spring-retracting action of each Apex cluster socket "levels" the fasteners, insuring uniform, positive seating and eliminating any possibility of cross-threading.

Apex Catalog 30-D lists many Apex "special" fastening tools. Write, on your company letterhead please, for your copy.

Ask **APEX** *for the answer to your fastening problem!*

THE APEX MACHINE & TOOL COMPANY
1046 S. Patterson Blvd., Dayton 1, Ohio

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- 12 Fah & Cen ranges for gases or liquids
- 1", 1 11/16", 2 5/16", 3", 5" head sizes
- Stem lengths from 2½" to 72"
- Straight form or angle form
- Choice of mounting nuts
- Pressure & moisture proof. Overheat protected.
- Corrosion resistant (bezels & stems made of 316 ss)
- Exclusive bi-metal coil, individual calibration insure utmost accuracy
- Screw-in or surface float
- Special models & ranges to order

YOURS FREE! Engineering catalog describing more than 100 models of Dillon Thermometers and quoting prices. Write today!

W. C. Dillon & COMPANY, INC.
14578NE Keswick Street
Van Nuys 1, California

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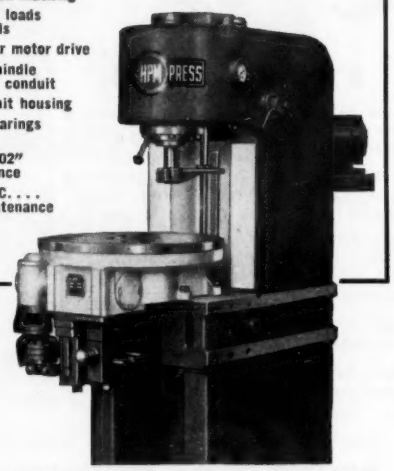
EIGHT PRODUCTION ADVANTAGES
standard at no extra cost

- 6, 8 or 12 station indexing
- Carries heavier loads at higher speeds
- Dependable gear motor drive
- Hollow drive spindle . . . for pipe or conduit
- Sealed drive unit housing
- Anti-friction bearings throughout
- Accurate . . . .002" indexing tolerance
- Completely J.I.C. . . . simplified maintenance

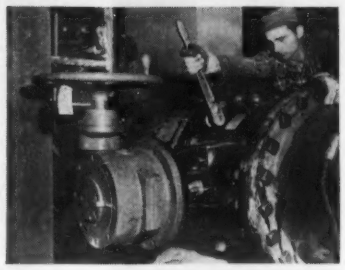


► HERE IT IS . . . built for a buyer's market . . . with eight exclusive features, standard, at no extra cost. More operational advantages, less maintenance worries, more for the money. The H-P-M C-Press is available in manual and automatic models, a variety of operating controls and accessories to make it adaptable to many different production jobs. Hydraulic index table model illustrated. Send for complete catalog. HPM

THE HYDRAULIC PRESS MFG. COMPANY
A Division of Koehring Company • Mount Gilead, Ohio, U.S.A. H903

▲ For more details circle NED-208 B9 on enclosed inquiry slip ▲

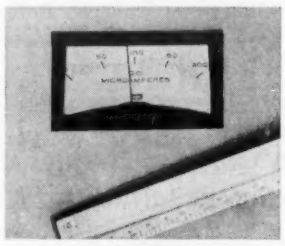
125-LB BUTTERFLY VALVES
for line sizes from 4 to 48 in.



Lightweight, compact line of Builders-Providence tight-closing butterfly valves can be supported by the line, eliminating special construction. The 125-lb units for line sizes from 4 to 48 in. meet and surpass American Water Works Association specifications. They can be buried without a vault. Uses include pressure reducing and throttling, pump discharge, and distribution systems. Made by **B-I-F Industries, Inc.**, 345 Harris Ave., Providence 1, R. I.

▲ For more details circle NED-210 B9 on enclosed inquiry slip ▲

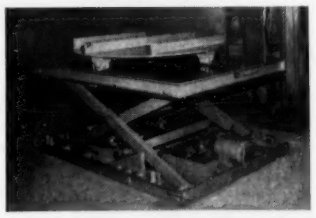
PANEL METER
occupies 3½ x 2-in. space



Model 361 panel meter exposes only its indicating area, the remainder of the meter fitting behind the panel. It requires a panel space of 3½ x 2 in. and projects only 3/16 in. Dial and window are slanted for easy reading and may be illuminated through a translucent rear window. Sensitivity ranges are 0 to 5 microamperes to 0 to 50 amp, and 0 to 5 mv to 0 to 500 v. Meter is held in place by rear screw-on clamps. Black satin finish is standard and gray is optional without charge. Made by **Assembly Products, Inc.**, Chesterland, Ohio.

▲ For more details circle NED-211 B9 on enclosed inquiry slip ▲

HYDRAULIC LIFT TABLE
equipped with turntable top



Loading of long, heavy, and cumbersome products onto a rack is facilitated through use of this foot-pedal controlled hydraulic lift table with a turntable top. When one side of the rack is filled, it can be turned around, as it is resting on the turntable. Table is offered in capacities up to 30,000 lb, or more in special applications. Illustrated unit is 54 in. wide, 79 in. long, and has a lifting range of 42 in. Greater lifting distances are available with longer tables. Lowered height of this table is 12½ in., including the turntable. Other units are as low as 8½ in. Made by **West Bend Equipment Corp.**, Water Street, West Bend, Wis.

▲ For more details circle NED-212 B9 on enclosed inquiry slip ▲

"EVERYTHING" FLOWS THROUGH H-R HOSE!

Well, almost everything. Alcohol, acid, caustic soda, compressed air, gasoline, agricultural sprays, molten sulphur, steam, mud, insulation materials, oil, foam, sand, oxygen, acetylene, liquid propane—even hydrogen peroxide and fuming nitric acid! In nation-wide stock for immediate delivery is hose specially engineered by Hewitt-Robins to suit practically every job requiring top quality and long life.

To order the type and size best suited to your requirements, or to obtain technical literature on specific hose types, call your nearest H-R representative, or write Hewitt-Robins, Stamford, Connecticut.

HR HEWITT-ROBINS

CONVEYOR BELTING AND IDLERS . . . POWER TRANSMISSION DRIVES
INDUSTRIAL HOSE . . . VIBRATING CONVEYORS, SCREENS & SHAKEOUTS

▲ For more details circle NED-213 B9 on enclosed inquiry slip ▲

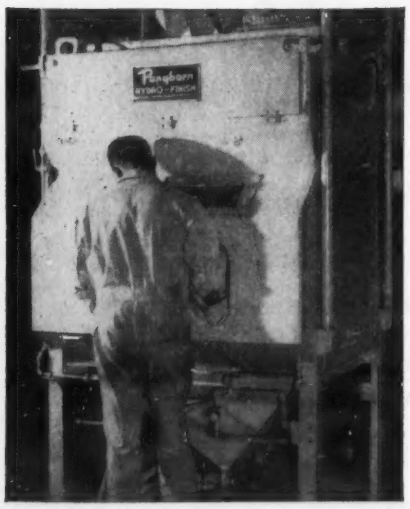
S.S. WHITE Plastic Plugs and Caps give your product full protection against damage in handling, storing or shipping. Your customers can remove them easily, and your production line will save valuable minutes in installation time. WILL NOT SHRED, leaving debris in your product. THE ECONOMY LINE is of flexible elastoplastic vinylite . . . retains elasticity; gives a stay-put fit and a non-slip grip. THE QUALITY LINE of rigid acetate is tough, non-brittle, impervious to petroleum-base oils and greases.

A complete range of sizes and types to fit every price range! Write for literature and samples. ASK FOR BULLETIN P-5708. It contains full details on the S.S. WHITE Plastic Plug and Cap line, including sizes, dimensions, etc. (Dept. 7P).

S.S.White PLASTICS DIVISION
10 East 40th Street, New York 16, New York
Western Office: 1839 West Pico Blvd., Los Angeles 6, Calif.

▲ For more details circle NED-214 B9 on enclosed inquiry slip ▲

Pangborn Hydro-Finish cuts cleaning time 70% at Heinzelman



At Fred Heinzelman and Sons . . . commercial heat treat firm in New York City . . . Pangborn Hydro-Finish has reduced cleaning and buffing time 70%, cleaning heat treated dies, plastic dies and other parts. It permits cleaning of delicate pieces to close tolerances with no breakdown of sharp edges and has quickly paid for itself in savings.

Pangborn Hydro-Finish costs less to maintain and gives you easier handling and added efficiency. Write today for Bulletin 1403 to PANGBORN CORP., 2400 Pangborn Blvd., Hagerstown, Md. *Manufacturers of Blast Cleaning and Dust Control Equipment.*

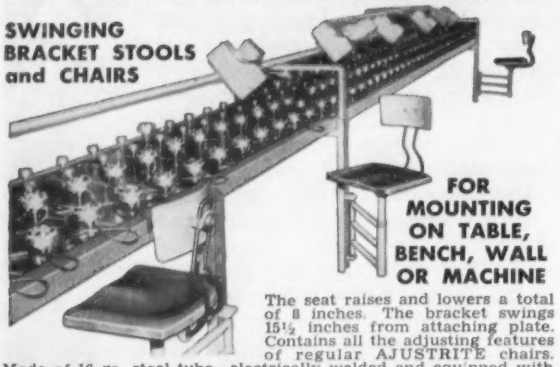
Pangborn
BLAST CLEANS CHEAPER

▲ For more details circle NED-209 B9 on enclosed inquiry slip ▲

AJUSTRITE®

SPLIT SECOND ADJUSTMENT... *to any Height Desired*

SWINGING BRACKET STOOLS and CHAIRS



FOR MOUNTING ON TABLE, BENCH, WALL OR MACHINE

The seat raises and lowers a total of 8 inches. The bracket swings 15½ inches from attaching plate. Contains all the adjusting features of regular AJUSTRITE chairs. Made of 16 ga. steel tube—electrically welded and equipped with nylon bearings—lifetime lubricated. Tested with 600 lb. load. Special mounting brackets to serve many individual needs.

ADVANTAGES OF SWINGING BRACKETS

(a) Allows each worker to swing in as close to his operation as he may care to. (b) Keeps chairs off of floors. (c) Stops interchange of chairs from one department to another.

30 DAY FREE TRIAL ——— 10 YEAR GUARANTEE

AJUSTO EQUIPMENT CO.

515 Conneaut St. Bowling Green, Ohio

▲ For more details circle NED-215 B9 on enclosed inquiry slip ▲

Q. WHAT IS IT? WHAT'S IT FOR?

A.

Frankly, we don't know.

The customer didn't tell us. But he wanted 1,000, and we made them at an amazingly low cost. Special sizes and shapes of shop boxes are economically produced by our "Chem-Board" process of rigidizing hi-test corrugated board to remarkable strength.

We make many standard size tote boxes . . . nesting, stacking and vertical sided . . . but we'll custom-make any box your product or use calls for.

More and more famous name industries are using Convoy Tote Boxes. Try us.

CONVOY, INC.

CANTON 6, OHIO
P. O. Station B, Box 216-N

GReenwood 7-4569

▲ For more details circle NED-216 B9 on enclosed inquiry slip ▲

Which piece of 20 carbon steel was gouged in 26 minutes?

These two blocks of 20 carbon steel are 7 in. square and 8 in. long. The groove is 2¼ in. deep. The block on the right took 1¾ hours to chip out. The one on the left was gouged with an Arcair torch in 26 minutes — four times faster!

You can cut, gouge, bevel or groove *any* metal using the Arcair method — and get dramatic cost savings with an investment of much less than $100.

HOW DOES ARCAIR WORK? The torch utilizes air from an 80 p.s.i. air line, current from a welding machine and special electrodes to melt and remove metal. Fifteen minutes instruction is all an operator needs.

WHAT'S YOUR PROBLEM? Write us your specific problem. We'll give you a speedy and sincere answer.

Arcair

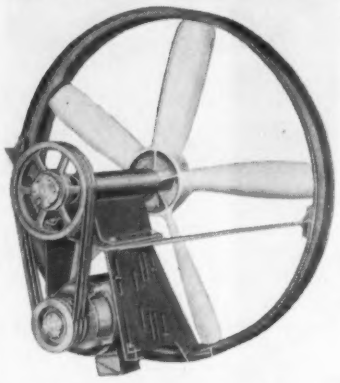
THE ARCAIR CO., 449 S. Mt. Pleasant St., Lancaster, Ohio
Send me more information on Arcair Torches and special electrodes.

NAME _____ TITLE _____
COMPANY _____
ADDRESS _____
MY PROBLEM _____

▲ For more details circle NED-217 B9 on enclosed inquiry slip ▲

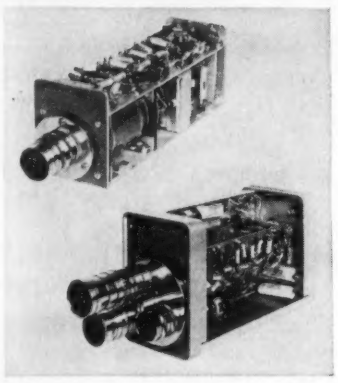
BELT-DRIVEN FANS deliver up to 58,000 cfm of air

Usable where large volumes of air must be moved at low noise levels and moderate pressures, Type CB airfoil—section propeller fans are belt driven. Spark-proof aluminum-magnesium alloy blades are dynamically and statically balanced. Sealed prelubricated cartridge ball bearings are used. Motor mount adjusts for belt tensioning, and totally-enclosed motors are standard. Designed for wall mounting with standard and heavy duty shutters as accessories, they can also be used in power roof ventilators. Sizes range from 42 to 72 in., with free air deliveries from 14,200 to 58,100 cfm. Made by **Robbins & Myers, Inc.**, Propellair Div., 1345 Lagonda Ave., Springfield 99, Ohio.



▲ For more details circle NED-218 B9 on enclosed inquiry slip ▲

INDUSTRIAL TV CAMERA for closed-circuit work under noise, shock, and vibration conditions



Especially suited for use on test stands for rockets, missiles, jets, turbines, and engines, as well as for monitoring other equipment generating extremely high levels of noise, shock, and vibration, line of closed-circuit television cameras has been ruggedized. It is available transistorized or with subminiature tubes. For remote operation, the camera, focus, turret, and iris motors are included. It will operate up to 2000 ft from the control unit.

Features include automatic light compensation which instantly adjusts from minimum light to more than 10,000 ft-c on the subject. Camera is designed for ease of servicing and for long service life. It will produce a high resolution, 2:1 interlace television signal and will operate in ambient noise of 175 decibels. It will withstand 20-g shock, high temperatures, 100 per cent humidity, and high altitudes. Camera prices are $1000 and $900, and control unit is $1700. Made by **Allen B. Du Mont Laboratories, Inc.**, 760 Bloomfield Ave., Clifton, N. J.

▲ For more details circle NED-219 B9 on enclosed inquiry slip ▲

Maximum guard rail safety...
Minimum construction cost
with **SPEED-RAIL SLIP-ON FITTINGS**

• *no threading* • *no welding*
• *up to 30% saving*

It's been proved many times that safety guard rails and balustrades built with Speed-Rail structural pipe fittings will save construction time and money. These unique fittings are simply slipped onto standard I.P.S. pipe and the set screws tightened with a hex wrench. Costly threading and welding are eliminated, pipe-cutting is reduced to a minimum.

Speed-Rail Fittings are fully tested for strength using 100% safety factor so they assure maximum protection. They are made of high-strength aluminum and can be installed outdoors or indoors.

Leading distributors stock Speed-Rail Fittings, and also Nu-Rail Fittings. Literature and technical information will be furnished for any application; write Dept. 20-E.

THE HOLLAENDER MANUFACTURING CO., 3841 Spring Grove Ave., Cincinnati 23, Ohio

▲ For more details circle NED-220 B9 on enclosed inquiry slip ▲

DON'T BUY INFRA-RED OVENS *Blindfolded*

driQuik *brings* **FIELD TEST EQUIPMENT** *right into your plant*

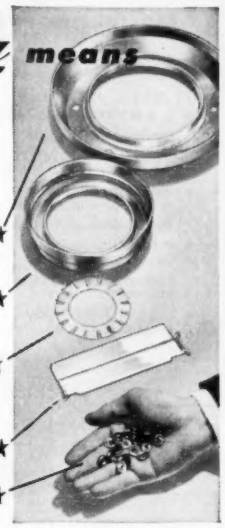
Don't buy blindly from a catalog. Our laboratories are equipped to make any tests that you wish, but we believe it important to have one of our highly trained representatives bring test equipment into your plant so that you can see exactly what it will do with your products and your personnel. No charge or obligation for this service which *only* driQuik provides.

See—through a test in your plant—how temperature is controlled accurately at any level you wish by driQuik. See how you get an even field of heating energy. No bulbs or sockets to burn out.

driQuik DIVISION — **DRY CLIME LAMP CORP.** GREENSBURG, INDIANA

▲ For more details circle NED-221 B9 on enclosed inquiry slip ▲

Quadriga Quality means METAL STAMPINGS



ITEM: 13" blank of 13 gauge steel . . . 4 operations . . . approx. 2" depth of draw . . . O. D. tolerance ±.003".

ITEM: 9¾" blank of 14 gauge steel . . . 5 operations . . . approx. 1¾" depth of draw . . . O. D. tolerance ±.003".

ITEM: 3¾" blank of 20 gauge brass . . . 2 operations, (a) compound blank and pierce, (b) sheer form . . . consistent angle to vanes . . . close tolerances.

ITEM: 7½" wide strip of 20 gauge steel . . . 6 station progressive die . . . close tolerances.

ITEM: 1⅛" wide strip of 26 gauge steel . . . 4 station progressive die . . . close tolerances.

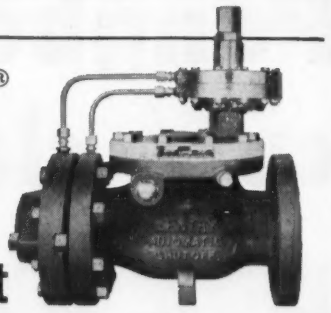
Any metal, medium to high quantity. Depth of draw to 3½ inches . . . press capacities to 150 tons. Send B/P or specs for estimate. Request catalog on your company letterhead.

THE *Quadriga* MFG. CO.

221 WEST GRAND AVE. • CHICAGO 10, ILL.

▲ For more details circle NED-222 B9 on enclosed inquiry slip ▲

SENTRY® VALVES stop or start full round flow in split second



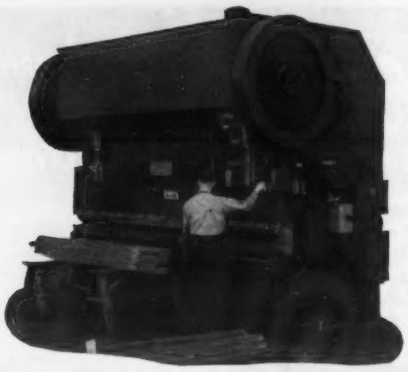
Latch-type valve closes instantly!
Piston-type valve opens instantly!

Sentry Valves are used on liquid and gas lines . . . protect property, materials and processing. Sizes 1½" to 8".

Have details on quick, positive action of this remarkable Coppus line at your fingertips. WRITE to COPPUS ENGINEERING CORPORATION, 402 Park Avenue, Worcester 10, Mass.

ANOTHER COPPUS "BLUE RIBBON" PRODUCT

▲ For more details circle NED-223 B9 on enclosed inquiry slip ▲



HEAVY PLATE FORMING FASTER with STEELWELDS

Because of simplicity of operation, heavy steel parts can be turned out quickly and accurately on Steelweld Bending Presses. Their heavy quality construction, including solid one-piece frame, finest electrical equipment and automatic oilers for lubrication of all bearings, keep Steelweld Press maintenance extremely low and assure uninterrupted production.

STEELWELD BENDING PRESSES CATALOG No. 2010

Send for free copy of catalog No. 2010.

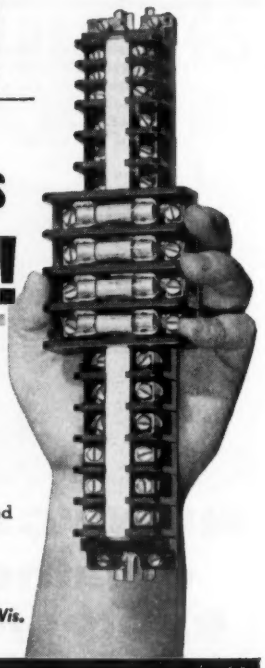
THE CLEVELAND CRANE & ENGINEERING CO.
6654 East 281st St., Wickliffe, O.

STEELWELD PRESSES

For more details circle **NED-224 B9** on enclosed inquiry slip

NOW!

SQUARE D TERMINAL BLOCKS are fusible!



- INCREASED FLEXIBILITY... individual fusible blocks combine with four different types of terminals on a single channel.
- Rated 30 amp., 600 volts
- Accepts any ferrule-type fuse 13/32" diameter by 1½" long
- Available in factory-assembled units, or kit form for customer assembly

Write for Bulletin 9080-H. Square D Company, 4041 North Richards Street, Milwaukee 12, Wis.

SQUARE D COMPANY

For more details circle **NED-225 B9** on enclosed inquiry slip

They both know the best buy in tape . . .

ACCURATE TAPES

FRICTION .... RUBBER .... PLASTIC

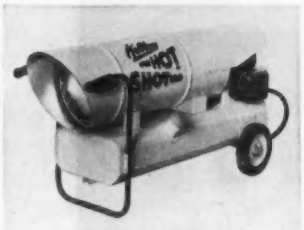
- ✓ non-raveling
- ✓ straight tearing
- ✓ high tensile strength
- ✓ strong adhesion
- ✓ highly insulating

Send today for our most recent describing details.

ACCURATE MFG. COMPANY
Garfield, New Jersey

For more details circle **NED-226 B9** on enclosed inquiry slip

MOBILE SPACE HEATER in 120,000 and 320,000 Btu models



Oil-fired Kelley Hot-Shot portable space heater can be used to heat buildings during construction, to warm or thaw materials, to warm work areas outdoors, or to provide emergency heating. Standard equipment includes a thermostat which can be preset for desired temperature in enclosed areas, a low-speed fuel pump, and an automatic fuel cutoff switch. Filter, pump, burner, and all controls are package-mounted. Model 120KHA produces 120,000 Btu per hr and Model 320KHA produces 320,000 Btu per hr. Both models operate instantly on 115-v 60-cycle single-phase current. Made by **Wiesner-Rapp Co.**, Kelley Machine Div., 285 Hinman Ave., Buffalo 23, N. Y.

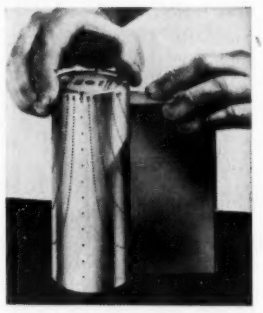
For more details circle **NED-227 B9** on enclosed inquiry slip

SOLID CARBIDE DRILLS have limited deflection design

Limited deflection design for accurate on-size drilling is featured by C30 series of solid carbide drills. These drills maintain body tolerances of +0.0000 in. and −0.0005 in., and shank tolerances of +0.000 in. and −0.001 in. They show excellent results in long run drilling of abrasive materials. Made by **M. A. Ford Mfg. Co.**, 1545 Rockingham Rd., Davenport, Iowa.

For more details circle **NED-228 B9** on enclosed inquiry slip

CYLINDRICAL SQUARE shows out-of-squareness

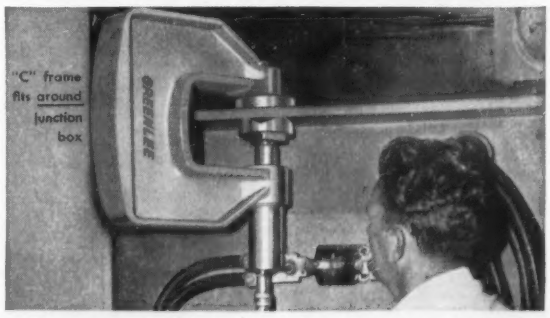


Variations from square are shown in units of 0.0002 in. by this 5-in. No. 558 direct reading cylindrical square. One end is precisely ground and lapped out of square so that when cylinder is rotated, its angle with the base surface will at some point match the angle of the work piece and shut out light against the work. Out-of squareness is read by following the dotted curve nearest the top edge of the working piece to the top of the cylinder. The 2½-in. diameter cylindrical square has a 6 rms surface finish and its diameter is ground and honed to within 0.0001 in. Cylinder is case hardened with clear, black dotted curves and numerals. Made by **Brown & Sharpe Mfg. Co.**, Industrial Products Div., Providence 1, R. I.

For more details circle **NED-229 B9** on enclosed inquiry slip

NEW One-Shot

Hydraulic Knockout Punch Drivers Punch Holes for ½"-4" Conduit



No pre-drilling or step-up punching

Save many dollars on conduit installations with the new GREENLEE One-Shot Knockout Punch Driver. Lightweight, easy to carry, powerful! Fast one-man setup and operation. 8" deep throat lets you position punch exactly where needed. High-strength aluminum "C" frame provides ample rigidity for slicing through 10-gauge steel with a few strokes of the hydraulic pump. No waste motions . . . fast, accurate work.

two sizes: No. 1731 fits GREENLEE Knockout Punches ½", ¾", and 1" with special dies. Weighs only 15 lb. **No. 1732** fits all GREENLEE Knockout Punches and Dies ½" - 4". Weighs only 35 lb. Both models are used with GREENLEE hand- or power-operated hydraulic pumps. Write for bulletin E-292.

GREENLEE TOOL CO.
1766 Columbia Ave., Rockford, Illinois

TOOLS FOR CRAFTSMEN GREENLEE

For more details circle **NED-230 B9** on enclosed inquiry slip

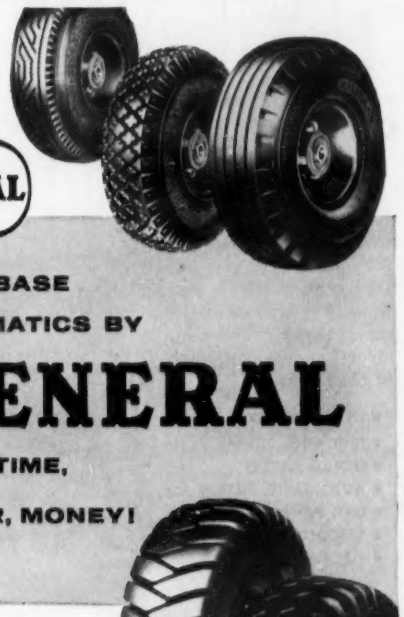
whatever you mark . . . save money, time and material with a **MARKEM METHOD**

Whether you mark materials, parts, products or packages, there's a Markem machine ready to bring low cost, high production identification or decorative marking to your plant. From plastics to fabrics . . . transistors to camera parts . . . multi-color decorative marking to high production offset marking — there's a *Markem Method* to meet your marking needs. One source, with 47 years of experience in all industries, can supply the machines, type, inks, accessories and service you need. For complete information, write Markem Machine Company, Keene 3, New Hampshire.

MARKEM

EVERYTHING INDUSTRY NEEDS . . . FOR PROFITABLE MARKING . . . SINCE 1911

For more details circle **NED-231 B9** on enclosed inquiry slip



THE GENERAL TIRE

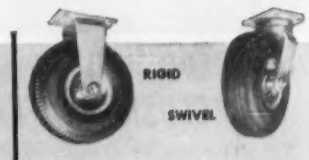
WIDE-BASE PNEUMATICS BY

GENERAL

SAVE TIME, LABOR, MONEY!

Under all job and load conditions, long-wearing General Wide-Base Pneumatics are tops for dependable high-speed performance. Featuring high flotation for easier rolling, they cushion loads and equipment, save high cost floors and floor surfaces, give you greater load capacity. You'll find the exact design you need in General's complete line.

Available separately or in assemblies of tires, tubes and wheels. Size O.D. 8" to 35"—200 to 7890 lbs. capacity for low or high speeds.



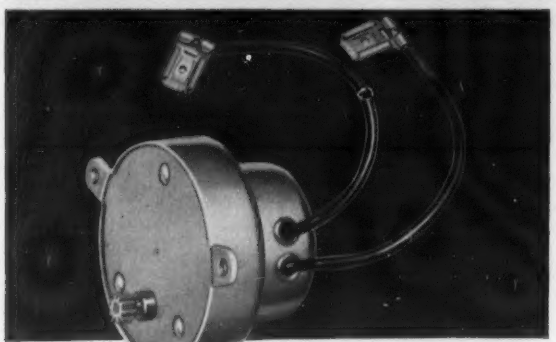
CASTER FORKS

Available in identical pairs in a wide range of sizes, these wide-base caster forks are engineered to carry heavier loads without adding dead weight to equipment.

SEND FOR CATALOG, DEPT. 4

THE GENERAL TIRE & RUBBER CO. • AKRON, OHIO

For more details circle **NED-232 B9** on enclosed inquiry slip



CC SYNCHRONOUS MOTORS

torque output *high* — dollar output *low*

CC synchronous motors are of the *permanent magnet* type, making them more reliable at higher torques — and inherent energy in the rotor results in more power than conventional clock motors. And its a *high production* motor designed to satisfy the cost-conscious volume user. Typical uses for this compact yet potent motor include timing devices, advertising displays and vending machines.

For long-life applications, an exclusive reservoir lubricating system is available. The rotor shaft is continuously bathed in oil, resulting in long, dependable performance.

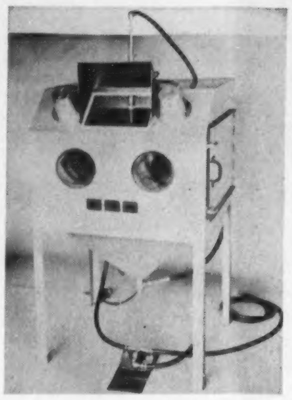
For more complete information, write for bulletin SL-15

CONTROLS COMPANY OF AMERICA
9577 Soreng Ave., Schiller Park, Illinois
COOKSVILLE, Ontario • NIJMEGEN, Holland

Controls That Make Modern Living Possible

▲ For more details circle **NED-234 B9** on enclosed inquiry slip ▲

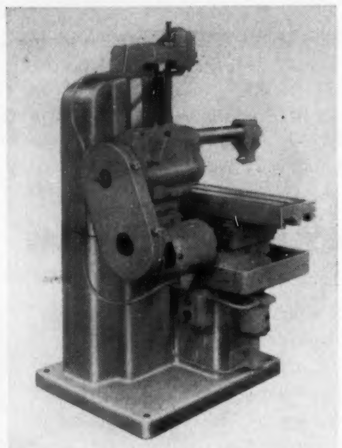
SANDBLASTING CABINET
has fixed and movable hand guns



Two independent ceramic nozzle blast guns afford double duty in this improved blasting cabinet. One is vertically mounted through the cabinet top and is controlled by a foot valve. Adjustable for height, gun allows operator to use both hands in manipulating work to be sandblasted. The flexible trigger - operated hand gun is useful for cleaning small articles, crevices, angles, and heavy objects. A perforated steel floor screens used abrasive prior to automatic recycling. Rubber liner protects the rear wall. A work turntable and a dust exhaust blower are optional. Made by **Cyclone Sandblast Equipment Co.**, 42 Clara St., San Francisco 7, Calif.

▲ For more details circle **NED-237 B9** on enclosed inquiry slip ▲

MILLING MACHINE
bed type unit is designed for light and medium production work



Three standard arrangements are offered in this No. 1 bed type milling machine. Model 1A for small lot production work has a 9 13/16 x 27-in. table surface with single T - slot, lever feed, 10-in. stroke, and micrometer table slots. Model 1B has hydraulic feed for longer production runs. It has a 9 13/16 x 27 or 32-in. table surface and hydraulic lever or electric pushbutton control for rapid approach, feed, and return. Feed is infinitely variable from $1\frac{1}{2}$ to 40 ipm, and rapid traverse is 100 ipm. Model 1C handles low production and toolroom work. Its 9 13/16 x 32-in. table has three T-slots. Other features are 15-in. stroke, handwheel screw feed with large micrometer dial, and micrometer table stops.

All machines have lever feed for rise and fall, micrometer cross adjustment of saddle, 3-in. diameter overarm and heavy arbor support, counterbalanced milling head, 1-hp gearhead motor, and six spindle speeds in two ranges of 111 to 1105 rpm and 247 to 2463 rpm. Made by **Producto Machine Co.**, 990 Housatonic Ave., Bridgeport 1, Conn.

▲ For more details circle **NED-238 B9** on enclosed inquiry slip ▲

New **CHIKSAN DS SERIES**

SWIVEL JOINT *for*

CHEMICAL, STEAM & HOT GAS SERVICES

Versatile Packing Design Permits Use of Disc or Molded Packings to Handle Wide Variety of services

Send for Free Bulletin 1258

Replace seals with swivel joint in the line.

New multiple service swivel joint handles chemicals from −40°F. to +400°F. as well as steam and hot gas. Change seals only. Use molded elastomer packings, including new Viton "A", for many chemicals and general services. For steam and hot gas, use disc seal. DS Series swivel joints are rated at 1000 psi or maximum temperature of 600°F. Information on packing types and materials for specific services, dimensions, and pressure-temperature relationship chart are in bulletin 258.

CHIKSAN COMPANY
BREA, CALIF., CHICAGO 5, ILL., NEWARK 2, N. J.
Subsidiaries: Chiksan Export Co., Chiksan of Canada Ltd.

▲ For more details circle **NED-240 B9** on enclosed inquiry slip ▲

NEW

COMPOSITE STAYNEW FILTER CATALOG OFFERED FREE

Now you can refer to this one concise catalog for information on all Dollinger Staynew Filters. It describes applications and shows construction details of each of the following:

- INTAKE FILTERS
- PIPE LINE FILTERS
- LIQUID FILTERS
- AUTOMATIC FILTERS
- DRY PANEL FILTERS
- VISCOUS PANEL FILTERS
- ELECTROSTATIC FILTERS

Dollinger also makes all types of special filters ... consult your local Dollinger representative. But, write today for composite filter catalog. Dollinger Corporation, 49 Centre Park, Rochester 3, N. Y.

STAYNEW FILTERS **DOLLINGER**

Specializing in dry type filters for 35 years

▲ For more details circle **NED-235 B9** on enclosed inquiry slip ▲

SKILMANSHIP • SKILMANSHIP • SKILMANSHIP • SKILMANSHIP • SKILMANSHIP • SKILMANSHIP • SKILMANSHIP

SKIL Top-handle Saw features
EXCLUSIVE SAFETY GUARD

Top protection at all times. "Floating" upper guard rotates forward as cutting depth is increased. Gives maximum blade coverage on every cut. Special satin finish on handles for sure-grip. "Vari-Torque" clutch prevents kick-back. Many more features in all-new SKILSAW.

- Ultra-high 7000 rpm blade speed.
- Extra-powerful 2 HP motor.
- Superior top-handle design balances saw perfectly in-the-hand. Easy "swing-through" on end cuts.
- Exclusive blade-change lock permits easy, fast blade changes.
- All ball-bearing construction.
- Available in two sizes—$7\frac{1}{4}''$ Model 857 and $8\frac{1}{4}''$ Model 858.

Ask your local SKIL distributor for a no-obligation Proof Test of the all-new top-handle saw with the exclusive safety features.

SKIL

Made only by SKIL Corporation, manufacturer of famous SKIL and SKILSAW products, Chicago 30, Illinois. In Canada: 3601 Dundas Street W., Toronto 9, Ontario.

▲ For more details circle **NED-236 B9** on enclosed inquiry slip ▲

3 *reasons why* SMART MECHANICS *choose* TOLEDO...

1 NEW PIPE CUTTERS ⅛" to 2"
New form-fitting handle, frame, sliding block and replaceable slide plate make these cutters the best buy of the year. They hook on pipe easily—track perfectly—cut cleanly. Four models to choose from . . . wide rollers for power.

2 NO MORE KNUCKLE-BUSTING
Easy to carry—set up—won't fold—new 7C chain vise stand holds pipe ⅛" to 5". Compound leverage applied to chain, requires minimum turns on screw. Tightening handle on top . . . 3 pipe benders over rear leg. 7Y with yoke vise, ⅛" to 2½".

3 A LIFETIME OF SERVICE
The No. 66 and 44 Cam Type Die Heads make threading easy, floating scroll assures longer wear—only controls thread size. Elongated jaws in new centering device hold pipe securely. Threads over, under and standard size threads.

Sold Through Your Favorite Distributor

THE TOLEDO PIPE THREADING MACHINE CO.
TOLEDO 4, OHIO, USA

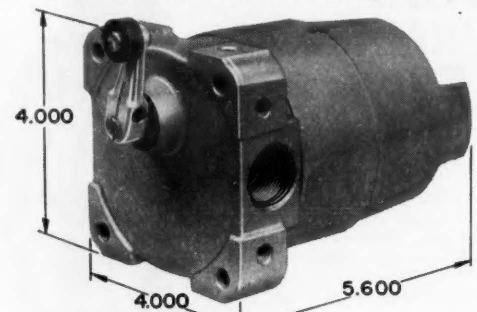
Send for free catalogs on all 3 tools today

BUILDERS OF THE WORLD'S FINEST PIPE TOOLS
TOLEDO
PIPE THREADERS • PIPE WRENCHES • PIPE MACHINES

▲ For more details circle **NED-239 B9** on enclosed inquiry slip ▲

MICRO SWITCH Precision Switches

New weather-proof switches have a seal on the actuator shaft and at the threaded cover-to-case joint. Heavy lugs on the cover facilitate securing it tightly to the case. Internally threaded conduit openings on either side of the switch permit through wiring.



NEW "CX" Series weather-proof explosion-proof switches

Listed by Underwriters' Laboratories as rain tight and suitable for use in hazardous atmospheres Class 1, Groups C and D; Class 2, Groups E, F, and G.

These new "CX" switches are the outdoor type. They operate dependably and safely in spite of rain, heat . . . explosive atmospheres . . . hard mechanical service . . . heavy electrical loads.

All exposed parts are treated to resist corrosion. Housings are die-cast aluminum, machine gray finish. Lever arms, in forged aluminum or stainless steel with non-sparking nylon roller actuators are field adjustable through 360°.

Each switch contains two single-pole double-throw switching units. Clockwise movement of the roller arm actuates one unit, counter-clockwise movement actuates the other unit. Operating force is 4 lbs. maximum.

20 amps., 125, 250 or 460 vac.
1 H.P., 115 vac; 2 H.P. 230 vac.

For additional information on the new "CX" series weather-proof explosion-proof switches, send for Data Sheet 156, or call the MICRO SWITCH branch office near you. (Other explosion-proof switches are described in Catalogs 83 and 84).

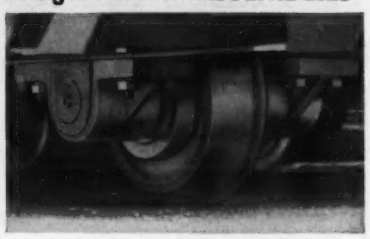
MICRO SWITCH . . . FREEPORT, ILL.
A division of Honeywell
In Canada: Honeywell Controls Limited, Toronto 17, Ontario

Honeywell
MICRO SWITCH PRECISION SWITCHES

▲ For more details circle **NED-241 B9** on enclosed inquiry slip ▲

IRWIN Packaged-Wheel ASSEMBLIES

SAVE YOU 50%



● Such fantastic savings up to 50% are due to increasing acceptance of Packaged-Wheel Assemblies nationwide! Our streamlined manufacturing methods and the exclusive operating principle of the Assembly eliminates troublesome installation and maintenance for long-lasting proven service—and the huge savings resulting are passed on to our customers.

● Rugged in-plant operation that beats down furnace and industrial car mobility fast, can be stopped in its tracks by IRWIN Packaged-Wheel Assemblies . . . for the life of the equipment!

● IRWIN Packaged-Wheel Assemblies are designed and built to absorb shocks and crushing impacts for all conventional cars up to 25-ton capacity with 10" to 20" standard diameter wheels. IRWIN Assemblies are available for higher capacity equipment and in various wheel sizes and types.

● IRWIN Packaged-Wheel Assemblies are equipped with Timken roller bearings for applications up to 300°F. A special high temperature series is available for applications up to 550°F.

We also manufacture flat tread, tapered tread and double-flanged wheel assemblies for rotary hearths, cranes and special operational equipment.

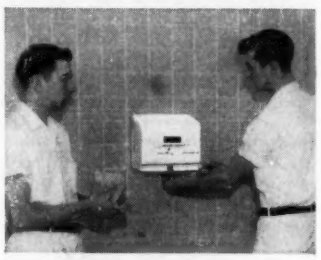
Call or write for IRWIN Assembly literature and price lists.

IRWIN-SENSENICH CORP.
WHEEL AND CAR MANUFACTURERS SINCE 1900
P. O. BOX 311
IRWIN, PA.
UNderhill 3-5000

▲ For more details circle NED-242 B9 on enclosed inquiry slip ▲

20,000 EMPLOYEES IN 42 FIRMS . . .

prove Turn-Towl service can save $1.00 per employee each year. A national survey showed that the cost of ordinary non-controlled towel service averages $3.00 . . . while Turn-Towls average $2.00 per employee per year!



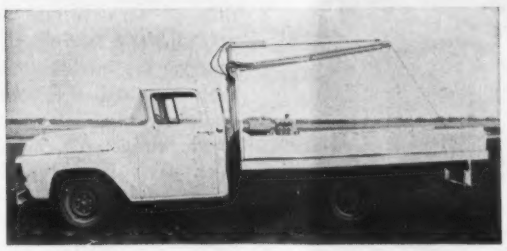
Turn-Towls can cut your towel service costs too. Write for name of nearest distributor today.

BAY WEST PAPER CO.
1124 West Mason Street, Green Bay, Wisconsin
Subsidiary of Mosinee Paper Mills Co.

▲ For more details circle NED-243 B9 on enclosed inquiry slip ▲

TRUCK-MOUNTED CRANE lifts 650 lb with 7-ft boom

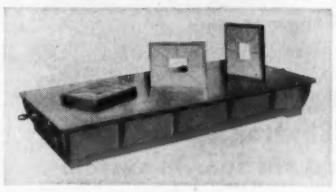
Handilift hydraulically operated, truck-mounted crane can be placed directly behind the cab or in the middle or the rear of the truck bed. It will lift 650 lb with a



regular 7-ft boom, or 450 lb with a 10-ft boom. Up to 16 ft of line is received by a hydraulic winching cylinder inside the boom. A second cylinder tilts the boom up or down. The boom may be swung manually or with an optional hydraulic unit. Crane is operated by the truck power take-off or by an auxiliary engine. Made by **Teale & Co.**, Box 308, Omaha, Nebr.

▲ For more details circle NED-245 B9 on enclosed inquiry slip ▲

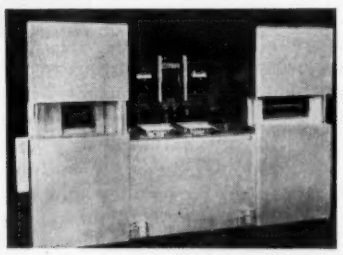
UNIVERSAL SQUARE also serves as a parallel



Made of Meehanite for lasting accuracy, this Universal Square is hand scraped on all edges and sides to a squareness and parallelism tolerance of 0.0001 in. It serves both as a square and a parallel, and is designed for use on surface plates. Made by **J. C. Busch Co.**, 154 S. Barclay St., Milwaukee 4, Wis.

▲ For more details circle NED-246 B9 on enclosed inquiry slip ▲

HEAT TREATING FURNACE for tools and dies is automatic

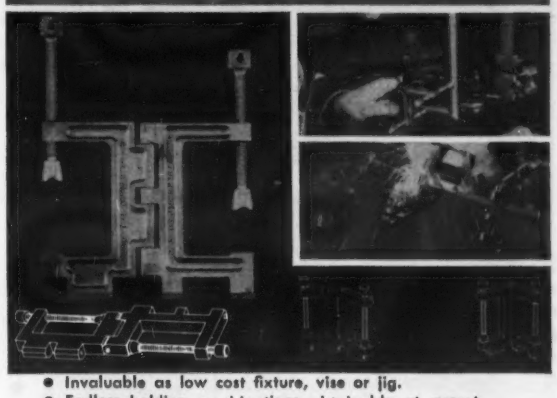


Having a temperature range of 1000 to 2400° F, Model CH automatic heat treating furnace for tools, dies, and parts will process water or oil-hardening steel. It has electronic control instruments, electrically operated control valves, and air-operated doors. Firing chamber measures 12 x 10 x 18 in. Tempering oven has a range of 250 to 1100° F. This gas fired or electric unit will heat, quench, and draw parts, and can be used for annealing, normalizing, pack hardening, and stress relieving. Made by **Waltz Furnace Co.**, Dept. 13, 1901 Symmes St., Cincinnati 6, Ohio.

▲ For more details circle NED-247 B9 on enclosed inquiry slip ▲

A Holding Problem?

. . . MERRILL THIRD HAND CLAMPS Have The Right Angle For It!



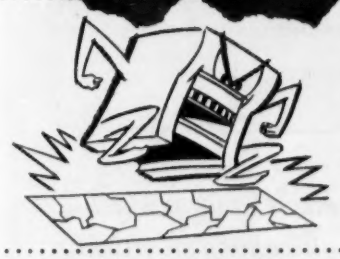
- Invaluable as low cost fixture, vise or jig.
- Endless holding combinations obtainable at preset angles of 45°, 90° and 180°.
- Assembles in minutes for most complicated setups.
- Indispensable in any operation such as welding, fastening and machining.
- Costs no more than high quality forged "C" Clamps, yet offers many more advantages.
- Available in 2" and 4" sizes.

U-27 For complete information, ask for Catalog TH

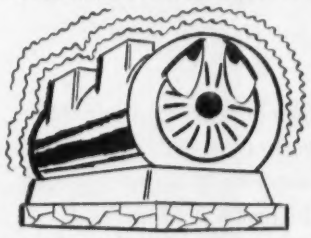
MERRILL BROTHERS
56-62 Arnold Ave., Maspeth, N. Y.

▲ For more details circle NED-248 B9 on enclosed inquiry slip ▲

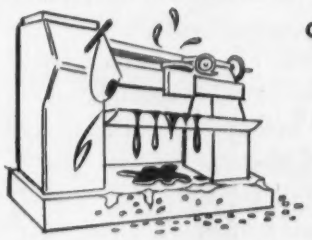
If you have any of these MACHINERY FOUNDATION PROBLEMS in your plant . . .



IMPACT
Eliminate cracked, shattered bases under drop forges, presses, shears and other heavy equipment with high-strength No. 648 Grout.



VIBRATION
Avoid damage to valuable equipment! No. 648 Grout actually bonds to metal . . . permanently anchors compressors, pumps, engines and motors.



OIL OR CHEMICAL DAMAGE
Prevent foundation crumbling and spalling! Non-porous No. 648 Grout is completely impervious to oils . . . resists most chemical attack.

8302-CC

you need CEILCOTE No. 648 GROUT

Only Ceilcote No. 648 Grout combines high strength with corrosion resistance and metal-bonding qualities to end costly damage, repairs, and downtime. No. 648 Grout handles easily . . . sets-up within 24 hours without shrinking or settling . . . yet is five times stronger than concrete! Get all the facts before starting your next grouting job.

Send for Technical Sales Bulletin today!

ANOTHER FIRST BY CEILCOTE

THE CEILCOTE COMPANY, INC.
4838 Ridge Road • Cleveland 9, Ohio

▲ For more details circle NED-249 B9 on enclosed inquiry slip ▲

With a *Clarklift* Fork Truck!

you'll get over 30% more efficiency . . . lower operating costs!

★ You'll get over 30% more efficiency with a *Clarklift*

★ You'll get automatic transmission . . . simplified, directional controls

★ You'll get picture-window visibility . . . maintenance in minutes

★ You'll get more work done with a *Clarklift* . . . with lower operating costs

Judge for yourself. Send today for the new *Clarklift* features booklet. Use the reader service card or the coupon

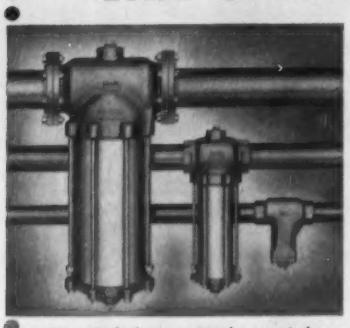
CLARK® EQUIPMENT
Industrial Truck Division
CLARK EQUIPMENT COMPANY
Battle Creek 21, Michigan
CLARKLIFT is a trademark of Clark Equipment Company

With no obligation send me your free *CLARKLIFT* features booklet

Name_____ Title_____
Company_____
Address_____
City_____ Zone____ State_____

▲ For more details circle NED-244 B9 on enclosed inquiry slip ▲

LINE STRAINERS

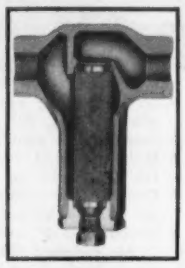


for **SPRAY NOZZLE** SYSTEMS and RELATED APPLICATIONS

in stainless steel, cast iron and brass

A complete range of capacities in ¼" to 4" female pipe connection sizes . . . and in 3" to 6" flange connection sizes. Keeps lines clear for efficient operation. Easily flushed.

TOP PERFORMANCE DESIGN
Screen area so large that strainers will take 75% blocking with less than ½ lb. pressure drop under normal flow conditions. Top and bottom flange collars on screen give seal fit and rigidity.

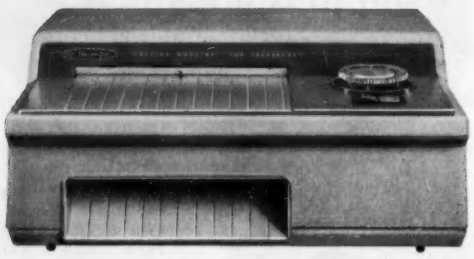


SPRAYING SYSTEMS CO.
3211 Randolph Street
Bellwood, Illinois

WRITE FOR your free copy of BULLETIN 94 ...gives complete information

▲ For more details circle NED-250 B9 on enclosed inquiry slip ▲

Speeds 125 office jobs!



Only "Thermo-Fax" Copying Machines do so many office jobs so quickly, so easily, for so little cost!

Count on a "Thermo-Fax" Copying Machine to speed work flow throughout the office or plant. It copies a business paper or production form in just 4 seconds—by the only completely electric, completely dry, completely clean copying process.

Yet this versatile machine is more than a speedy communicator. It's also a low-cost billing machine, accounting machine, addressing machine, labelling machine. You'll use it to speed work, cut costs, in several of your present work systems. For full facts call your local dealer, or mail the coupon.

Thermo-Fax COPYING MACHINES
3M COMPANY
THE TERMS "THERMO-FAX" AND "SECRETARY" ARE REGISTERED TRADEMARKS OF MINNESOTA MINING AND MANUFACTURING COMPANY

MINNESOTA MINING AND MANUFACTURING COMPANY
...WHERE RESEARCH IS THE KEY TO TOMORROW

Minnesota Mining and Manufacturing Company
Dept. KP-29, St. Paul 6, Minnesota
Send me facts on the "Thermo-Fax" Copying Machine

Name_____
Company_____
Address_____
City_____ Zone____ State____

▲ For more details circle NED-251 B9 on enclosed inquiry slip ▲

ABRASIVE TOOLS of crushed, sintered tungsten carbide retain sharp edges

A hand sander, a wood rasp or file, a contour rasp, an abrasive saw, and an abrasive saw and sanding disc are five basic tools now available which make use of crushed, sintered tungsten carbide. Both saws are adaptable for use with either power hand tools, or on conventional table stands. These Tunco tools are made by copper - bonding crushed tungsten carbide particles to steel in a hydrogen atmosphere brazing furnace under extremely high temperatures.

Abrasive retains sharp cutting edges under the hardest use, cuts fast, and produces a smooth finish. Hand sander sells for $1.49, whereas the flat and contour rasp cost $1.59 and $1.39, respectively. The 8-in. diameter saw retails at $5.95, and the combination saw and sander is priced at $7.95. Made by **Functional Products, Inc.**, 1460 E. River Rd. S., Aurora, Ill.

▲ For more details circle NED-252 B9 on enclosed inquiry slip ▲

DIRECT LINE TELEPHONE SYSTEM provides pushbutton call to any of 20 preselected stations in system

To reach any one of up to 20 preselected P-A-X or P-A-B-X stations, an executive merely pushes the appropriate button on the desk-top control cabinet of the Type 11 Executive Quick - Call direct line telephone system. The Trimline-housed control cabinet has two rows of 11 translucent pushbuttons. The button lights up when the line is selected and activates a relay to supply ringing current over the called party's line.

The Hold-Tone-Error button, one of two special buttons, can be used to hold an outside call, allowing the executive to communicate with any one of the 20 stations; to put a tone on a busy line to show an executive call waiting; and to restore the control relay actuated by a pushbutton operated in error. Button designated CT (cut through) will establish immediate connection with a busy station. Relay equipment is assembled on a plate for mounting on a 19-in. relay rack. Any standard telephone instrument, or Speakerphone can be used with system. System developed by **Automatic Electric Co.**, Northlake, Ill.

▲ For more details circle NED-253 B9 on enclosed inquiry slip ▲

NEW FAFNIR BALL BEARING CARTRIDGE SOLVES SPACE PROBLEMS...

Fafnir's new space-saver two-bolt flange cartridge offers a rugged-duty ball bearing mounting for use where space is limited. Durable cast iron housing incorporates Fafnir self-aligning wide inner ring ball bearing with self-locking collar in completely assembled package. Bearings in LCJT cartridges are equipped with Mechani-Seals, slinger type. RCJT cartridges contain bearings equipped with Plya-Seals, contact type. Both types are prelubricated . . . usually need no further lubrication. However, grease fitting can be installed for special needs. Available for shaft diameters from ½" to 1 15/16". For details write the Fafnir Bearing Company, New Britain, Connecticut.

LCJT Type with Mechani-Seals
RCJT Type with Plya-Seals

FAFNIR BALL BEARINGS
MOST COMPLETE LINE IN AMERICA

▲ For more details circle NED-254 B9 on enclosed inquiry slip ▲

TO INCREASE PRESS EFFICIENCY

MINSTER® CLUTCHES FOR PRESS CONVERSIONS

MINSTER Combination Air Friction Clutch and Brake — made by a press manufacturer who knows your problems.

Here's why it is profitable to convert to Minster Clutches:

- Eliminates down time because of clutch failure
- Reduces maintenance by eliminating costly and frequent parts replacement
- Increases die life because of smooth, shock-free clutch engagement
- Reduces operator fatigue and improves safety because press is easier to operate, easier to control
- More productive cycles per hour on single cycle operation
- Easier, more rapid die setting

Bulletin CC 57 describes Minster Clutches for press conversion. Copy by request on company letterhead.

THE MINSTER MACHINE COMPANY
MINSTER, OHIO

▲ For more details circle NED-255 B9 on enclosed inquiry slip ▲

Break the Cost Barrier and Eliminate Backbreaking Effort with . . .

AMERICAN Load-Lift Skid and Pallet Trucks

For easy handling of 2000, 3000, 4000 or 6000 lb. loads. It's industry's most economical way to handle skids and pallets. Write for New Catalog.

The American Pulley Company
PHILADELPHIA 29, PENNSYLVANIA

▲ For more details circle NED-256 B9 on enclosed inquiry slip ▲

Drill Hardened Steels without Annealing—

With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

You Harden It—We'll Drill It—With "HARDSTEEL"

BLACK DRILL COMPANY, INC.
1380 East 222nd St. • Cleveland 17, Ohio

"HARDSTEEL"

▲ For more details circle NED-257 B9 on enclosed inquiry slip ▲

Instant on-off throttle control needs only touch of a thumb.

fine-finish flat or contour surfaces easily with this New, Airetool Pneumatic Sander

Step up production of feather-edge sanding jobs or fine metal finishing with this lightweight Model 500-V vertical Airetool sander. Long handles make it easy to use . . . with maximum accuracy. Smooth-running, vibration-free pneumatic motor. Sturdy aluminum housing, rugged construction, precision-ground working parts. Uses 7" sanding disc; 2300, 3000 or 4000 rpm; weight: 4⅝ lbs. Call your Airetool representative or write us for Catalog No. 63 . . . describes complete line of Airetool pneumatic grinders, sanders, die grinders and drills.

BRANCH OFFICES: New York, Chicago, Tulsa, Philadelphia, Houston, Baton Rouge.
REPRESENTATIVES in principal cities of U.S.A., Canada, Mexico, South America, England, Puerto Rico, Italy, Japan, Hawaii.
EUROPEAN PLANT: Vlaardingen, The Netherlands.
CANADIAN PLANT: Brantford, Ontario.

AIRETOOL MANUFACTURING COMPANY SPRINGFIELD, OHIO

▲ For more details circle **NED-258 B9** on enclosed inquiry slip ▲

• Just off the press is your FREE copy of the big new 48-page CESCO catalog. More than a catalog, this publication is a helpful guide for choosing the right safety protective equipment to meet your particular requirements. For example, there's a detailed chart listing the recommended safety equipment to use for 17 basic classifications of industrial hazards. In addition, there's a complete description and illustration of all the items in the CESCO line.

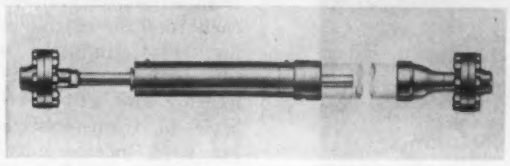
• You can get your FREE copy of the New CESCO catalog either of two ways—by contacting the CESCO distributor nearest you or by writing us direct. Get your copy today.

CHICAGO EYE SHIELD COMPANY
2715 W. Roscoe St., Chicago 18, Illinois

▲ For more details circle **NED-259 B9** on enclosed inquiry slip ▲

PIPELINE SNUBBER restrains vibration and shock loads

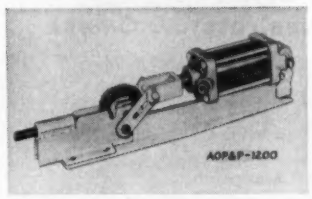
Operating as a stop or restraint for dynamic vibration and shock loads in pipelines, Vibrasnubs are made in 2½ and 4-in. sizes with load capacities of 7000



and 20,000 lb. They operate instantly to prevent sudden movement, yet do not interfere with normal expansion or contraction. These units incorporate a hydraulic cylinder and an orifice-equipped bypass. Ball type joints at each end accommodate misalignment to 10 degrees. Lengths can be up to 13 and 19 ft, respectively. Made by **Barco Mfg. Co.**, Dept. S-25, 500 N. Hough St., Barrington, Ill.

▲ For more details circle **NED-261 B9** on enclosed inquiry slip ▲

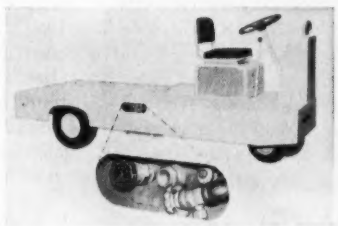
PUSH & PULL CLAMPS apply up to 1200 lb force



Two hand - operated and one air (or oil) operated model for remote control with 85 psi are available in the line of Knu-Vise push and pull clamps. They apply up to 1200-lb clamping force. Built-in deflection provides more uniformly tight clamping of parts with normal variation in stock thickness. Operating handle is reversible. Failure of air or oil pressure does not permit reverse motion. A swivel base model provides 90 degrees change in clamping direction. Made by **Lapeer Mfg. Co.**, 1150 W. Baltimore, Detroit 2, Mich.

▲ For more details circle **NED-262 B9** on enclosed inquiry slip ▲

PLATFORM TRUCK is LP-gas powered machine



Now available with an 18-hp Wisconsin LP-gas powered engine, this Model F-40 platform truck has a capacity of 4000 lb. Standard equipment includes an LP-gas tank with a solenoid fuel shut-off safety valve which operates automatically if the engine stalls. A check valve stops fuel flow if a fuel line breaks. Fixed or replaceable tank is optional, and either a liquid or vapor withdrawal system can be furnished. Truck features hydraulic torque converter drive and spin-proof differential. Made by **Prime Mover Co.**, Third & Oak Streets, Muscatine, Iowa.

▲ For more details circle **NED-263 B9** on enclosed inquiry slip ▲

No. 7 Dial Feed
Capacity, 80 tons

What's the job? A standard operation—or one that's unique to your plant? Modernize with Federal Dial Feeds and watch production go up, costs go down. Eliminate need for expensive equipment. Finest materials and workmanship. 6 to 80 tons. Automatic feeds and ejectors if desired.

Write for new 1959 Catalog

THE FEDERAL PRESS COMPANY
906 Division Street, Elkhart, Indiana

FEDERAL DIAL FEED ***PRESSES***
32 Years' Experience in Dial Feed Engineering and Construction

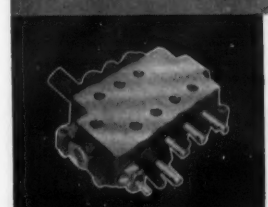
▲ For more details circle **NED-264 B9** on enclosed inquiry slip ▲

COMMERCIAL FLUID POWER UNITS

PROVIDE TOP PERFORMANCE
FOR ORIGINAL EQUIPMENT

HEAVY-DUTY GEAR PUMPS

Generate Oil Hydraulic Power
- Constant delivery up to 80 gpm
- Continuous duty operation up to 2000 psi
- Life sustained high volumetric efficiency
- Multiple choice portings, mountings and shafts

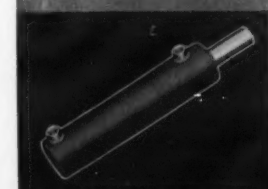


MULTI-DIRECTIONAL CONTROL VALVES

Control Oil Hydraulic Power
- Rated capacity—10 to 55 gpm
- Interchangeable working sections give multi-operating actions in any combination or sequence
- Load drop check in every section
- Pressure relief and overload protection

MULTIPLE TORQUE MULTIPLE SPEED MOTORS

Convert Oil Hydraulic Power
- Constant output up to 55 hp
- Continuous duty operation up to 2000 psi
- Start, stop or free wheel and reverse instantly
- Heavy duty service



"SLIM SILHOUETTE" CYLINDERS

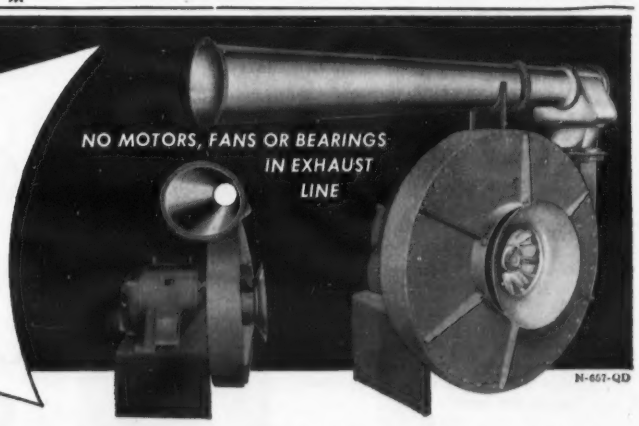
Convert Oil Hydraulic Power
- Single acting, double acting, multi-sleeve telescopic
- Diameters up to 12"
- Operating pressure up to 1500 psi
- Easily disassembled for internal inspection

FREE CATALOG INCLUDES COMPLETE DRAWINGS AND PERFORMANCE DATA

COMMERCIAL
shearing and stamping
Youngstown 1, Ohio

▲ For more details circle **NED-265 B9** on enclosed inquiry slip ▲

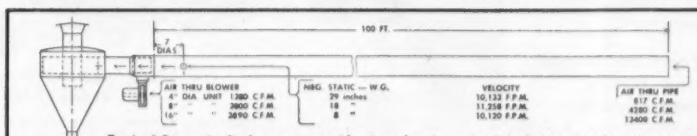
Now . . . you can reduce bulk materials handling costs with *Quickdraft* high pressure exhausters



FOR MOVING:
Cement, Sand, Iron Oxide, Wheat, Corn, Salt, Limestone, Castor Beans, Knots, Blocks, Paper, Wool, Cotton, Oats, Rags, Rubber, Vegetables, Coal (Powdered), Shavings, Cork, Sawdust . . . **and any other materials that can be moved by air!**

IMPORTANT NOTICE
For resisting abrasive action, Quickdraft units can be rubber lined. For withstanding corrosive gases, all Quickdraft units are available in standard acid resisting vitreous enamel, No. 316 Stainless Steel, rigid plastics (PVC), and with plastic and Fiberglas coatings.

Time and maintenance savings usually pay for Quickdraft high-pressure exhausters in 6 to 18 months on materials handling jobs. Because material does not pass through blower, maintenance is negligible. Downtime for cleaning and replacing fans, motors and bearings is eliminated. Quickdraft units are also ideal for exhausting paint spray, abrasives, corrosive gases, noxious fumes and high temperatures. For Quickdraft engineering data on materials handling, industrial exhausting, heating plant venting, write today!



Patent Nos. 2,722,372 and 2,855,874. Other Patents Pending.

Typical Example: Performance specifications for three Quickdraft Materials Handling Units using same size blower, pulling through 100 ft. of pipe the same diameter as Quickdraft. (Models range from 4 in. to 30 in. diameter—with 1/6 to 600 H.P. motors—with negative static pressures from ¼ in. to 60 in. W.G.)

Quickdraft corporation
P.O. Box 87-L • Canton 1, Ohio

Well known for power draft units for all types of heating plants.

▲ For more details circle **NED-260 B9** on enclosed inquiry slip ▲

Edmont Case No. 617: For inspecting rough castings, Edmont recommended a heavy duty plastic palm coated glove (Grappler No. 362) which outwore leather palm gloves 17 shifts to 6, cutting costs from 14c to 6c per-man-per-shift.

Edmonts saved 57% of glove cost

No. 362 Grappler Palm coated safety cuff

In case above, the Edmont-recommended glove outwore leather palms nearly 3 to 1 because it fit the job of handling rough castings. Its reinforced "Durox" plastic coating also outwears ordinary plastic coatings up to 50%. Curved-finger, wing-thumb pattern gives perfect fit, maximum comfort.

Free Test Offer to Listed Firms: We make over 50 types of job-fitted gloves. Describe your operation, materials handled and temperature condition. We will recommend correct gloves and, without cost, send samples for on-the-job testing.

Edmont JOB-FITTED **GLOVES**

Edmont Manufacturing Company
1240 Walnut Street, Coshocton, Ohio
In Canada write MSA, Toronto

▲ For more details circle NED-269 B9 on enclosed inquiry slip ▲

New Paslode Model PR air-power staplers make better stapling fast and easy

Two major stapling tool improvements—air return and high-speed piston—are combined for the first time in the new Paslode Model PR air-power staplers. The result is a stapler that sets new high-performance standards, proved in use.

Jet-drive air return delivers positive high-speed action and extends tool life. Eliminates parts most subject to failure in any stapler. Helps stop costly production line delays.

High speed nylon piston drives staples without recoil. A light touch drives every staple home. The tool does more of the work. Work quality starts high, stays high.

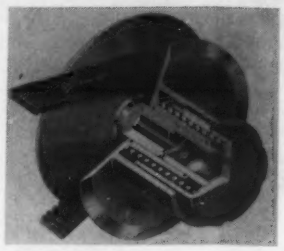
PR staplers take Paslode wide and narrow crown staples in leg lengths from 5/16" to 3/4". Write today for information. Better yet, include a word about your stapling application and let us arrange a free demonstration.

Industrial Distributors—a few excellent territories are still open for the entire Paslode quality line. Your inquiry is invited.

PASLODE COMPANY
Division of Signode Steel Strapping Co.
5860 Northwest Highway, Dept. ED, Chicago 31, Ill.

▲ For more details circle NED-270 B9 on enclosed inquiry slip ▲

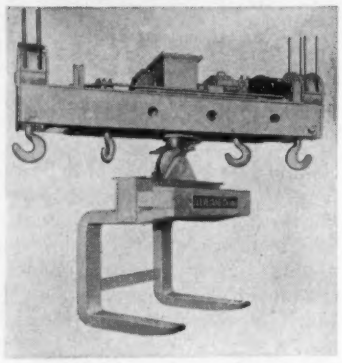
VARIABLE SPEED SHEAVE bearings reoiled by rotation



Bearing surfaces of the MS Series of variable speed pulleys are reoiled from an oil reservoir with each rotation of the pulley. This eliminates fretting corrosion, as well as freezing and sticking. Series of nylon-faced rubber keys, located outside the bearing surfaces, transmits the power from the stationary to the moving flange through a removable sleeve cap. Pulleys will run indefinitely at set speed without sticking. Handwheel on adjustable motor base is turned to move motor toward the driven machine for maximum speed or away from the driven machine for slower or minimum speed. Five pulleys in the series are respectively rated at 2, 3, 5, 10, and 15 hp. Made by **T. B. Wood's Sons Co.**, Fifth Avenue, Chambersburg, Pa.

▲ For more details circle NED-271 B9 on enclosed inquiry slip ▲

CRANE SPREADER BEAM has power-driven rotating C-hook



Ingots and heavy steel slabs are handled by this five-hook crane spreader beam which features a center hook that is motor rotated without limit in either direction. Drive operates through reduction gearing mounted on top of beam. The two hooks next to center can be manually rotated 360 degrees. End hooks cannot be turned, but can be rocked since they are mounted on pins. All hooks except the middle one are rated 20 tons capacity. Center hook supports a special C-hook rated 30 tons live load capacity. The C-hook is easily detached and is counterbalanced to keep load level. Its supporting hook has a safety latch. Lifting prongs of the C-hook will handle a stack of slabs with a 4 x 4-ft cross section. Made by **Cleveland Crane & Engineering Co.**, 1143 E. 283rd St., Wickliffe, Ohio.

▲ For more details circle NED-272 B9 on enclosed inquiry slip ▲

PVC Pipe & Fittings

Mueller Brass Co.—Advantages, characteristics and applications, physical properties, installation instructions, flow rate charts, and specifications for Schedule 40 and 80 polyvinyl chloride pipe and fittings are detailed in 12-page manual. Chemical resistance chart lists 250 reagents and their effect upon PVC pipe and fittings.

▲ For more details circle NED-273 B9 on enclosed inquiry slip ▲

SILICONES INCREASE VALVE LIFE, REDUCE MAINTENANCE

Dow Corning Valve Seal lubricates and protects metal, rubber and plastic valve parts long after conventional lubricants fail . . . stays greaselike from −40 to 500 F . . . is relatively unaffected by water, steam, many chemicals, corrosive gases and weathering.

Valve Seal eliminates need for stocking a lot of special-purpose valve lubricants . . . meets service requirements for plug valves, control valves, flow meter bearings, pump packing, actuator cylinder packing glands, or plug cocks.

For Free Sample and full information, write dept. 5414.

first in silicones **Dow Corning CORPORATION** MIDLAND, MICHIGAN

▲ For more details circle NED-274 B9 on enclosed inquiry slip ▲

NEW PANEL METER WITH A BUILT-IN NATURAL READING ANGLE

A totally new and fresh styling idea: the A.P.I. Model 561 . . . the slim, trim panel meter with the longer, larger dial you read like a book. Subtly recessed and correctly sloped at the natural reading angle, this meter actually gives you 30% more dial area in 15% less panel space.

The self-trimming case fits into a simple panel cutout, 5" x 2⅞". No holes to drill; no studs to align. A concealed, integral window provides for dial illumination.

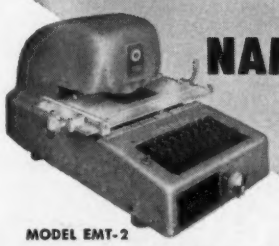
The Model 561 and a similar, smaller version, the Model 361, are available in ranges of 0-5 microamperes to 0-50 amperes or 0-5 millivolts to 0-500 volts.

MORE INFORMATION? SEND FOR DATA SHEET 10-A

ASSEMBLY PRODUCTS, INC.
Chesterland 61, Ohio S.A. 1893

▲ For more details circle NED-275 B9 on enclosed inquiry slip ▲

CUT PRODUCTION COSTS!
MARK **NAME PLATES 5 TIMES FASTER**



MODEL EMT-2
ELECTRIC TAG TYPEWRITER
A touch of the finger delivers up to 2 tons pressure for deep, legible impressions in metal or plastic tags.

—WITH— **Automark** ELECTRIC TAG MARKING MACHINES

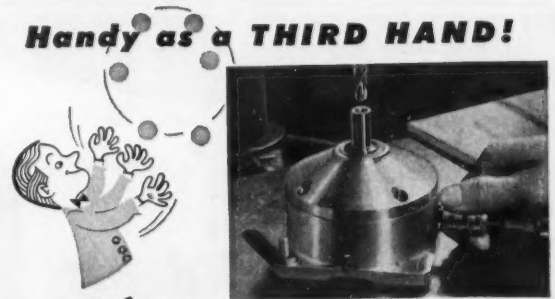
MODEL SRST-2
HI-SPEED
TAG MARKING MACHINE
Automatically marks BOTH constant and serial numbers at any desired speed up to 8,000 tags per hour!
MANUFACTURER'S AGENTS—Some Territory Still Available

Send Now for Bulletin

DEFIANCE MACHINE & TOOL COMPANY
1920 S. VANDEVENTER Dept. OD ST. LOUIS 10, MO.

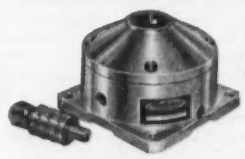
▲ For more details circle NED-276 B9 on enclosed inquiry slip ▲

Handy as a THIRD HAND!



Model CF-50 furnished with 3-way sleeve valve as shown (less collet).

Modernair AIR-OPERATED
Collet Holding Fixtures



USE YOUR OWN COLLETS... Model CF-50 takes #1A or #3C, Model CF-100 takes #5C, Model CF-138 takes #2J standard collets. Collets easily changed from top without disturbing chuck.

EXTRA PORT for coolant, air ejection of work piece, chip blowing, etc.

LOW COST! Model CF-50 with 3-way sleeve valve $65.00
Models CF-100, CF-138, without valve* 99.50

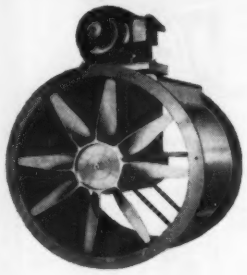
*Modernair can furnish any type of hand or foot-operated 3-way valve desired.

WRITE TODAY FOR LITERATURE, SPECIFICATIONS . . . Please address Dept. F2

Modernair CORPORATION
400 PREDA STREET
SAN LEANDRO, CALIFORNIA
MEMBER NATIONAL FLUID POWER ASSOCIATION

▲ For more details circle NED-277 B9 on enclosed inquiry slip ▲

How Hartzell Duct Fans Cut Ventilating Costs



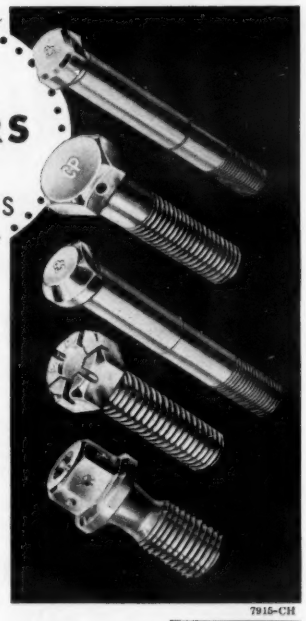
- **Lower Equipment Costs —** because competitively priced Hartzell fans last much longer —cost much less per year of service life.
- **Lower Installation Costs —** because Hartzell pre-fabricated duct fans are as simple and easy to install as a section of duct work.
- **Lower Maintenance Costs —** because Hartzell's high standards of quality in design and construction practically eliminate failures under normal operating conditions.

For details, write for Bulletin A-114 or call your nearby Hartzell field engineer.

HARTZELL PROPELLER FAN CO.
Div. of Castle Hills Corp.
62 Thomas Blvd., Piqua, Ohio
ENGINEERING OFFICES IN PRINCIPAL CITIES

▲ For more details circle **NED-278 B9** on enclosed inquiry slip ▲

precision metal FASTENERS to your specifications



Chandler makes "precision" a reality . . . not just a "catch word". Here's how . . . constant production control assures high quality fasteners with the ultimate in uniformity, accuracy . . . and economy. Chandler's rigid inspection standards mean you get fasteners that provide maximum resistance to stress, vibration and shear. For over 25 years Chandler has supplied the automotive, engine and aircraft industries with . . .

- ★ Self-Locking Place Bolts
- ★ Connecting Rod Bolts
- ★ Automotive Special Bolts
- ★ Special Aircraft Engine Bolts
- ★ "AN" Aircraft Engine Bolts
- ★ "NAS" Aircraft Bolts

If you're looking for fasteners to meet your very special requirements, write us today.

7915-CH

Write today for Bulletin 1264-CH

CHANDLER PRODUCTS CORPORATION
1495 Chardon Road • Cleveland 17, Ohio

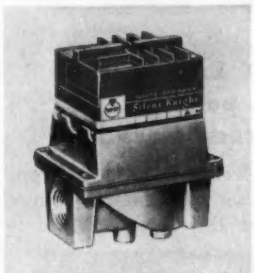
▲ For more details circle **NED-279 B9** on enclosed inquiry slip ▲

DUAL PRESSURE GAGE reads two systems simultaneously

Instantaneous comparison of two separate pressures is provided by this dual-needle pressure gage. Made in ranges from 0 to 70 up to 0 to 20,000 psi, this 1/4-lb instrument uses two concentric Bourdon helix sensing elements to measure independent pressures with two needles on a single dial scale. Needles are color coded blue and red, and they are numbered 1 and 2 corresponding to numbered ports. Made by **Glassco Instrument Co.**, 660 S. Fair Oaks Ave., Pasadena, Calif.

▲ For more details circle **NED-281 B9** on enclosed inquiry slip ▲

GAS VALVE is noiseless in operation



Entire operating mechanism of the Silent Knight gas valve is contained in a sealed compartment filled with a heavy duty silicone oil. This oil maintains a constant viscosity, suppressing all internal noise. Developed for use with heating equipment, it requires no bleed tubing. It is available with or without nonrecycling and automatic recycling manual operators. A plug-in pilot is also optional. Valve can be installed in any position up to 90 degrees from vertical. Low voltage and line voltage models are made to conform to NEMA standards in 3/8-in., 1/2-in. Junior, 1/2-in. small and large, 3/4-in. small and large, and 1-in. pipe sizes. Made by **White-Rodgers Co.**, 1209 Cass Ave., St. Louis 6, Mo.

▲ For more details circle **NED-282 B9** on enclosed inquiry slip ▲

PLASTIC WIRE HARNESS TIES ratchet-like band holds securely

This flexible plastic tie for binding wiring harnesses has a double-tooth buckle which grips ratchet-like band with a strength almost equal to that of the strap. Made of nylon base Moldarta, the tie is self-adjusting to a wide range of wire bundle diameters. Tooth form allows bending to 1/32-in. radius, and notched leader facilitates gripping the tie for tightening. A V-ridge along the underside of the tie prevents side slipping. Special pliers grip the tie for rapid tightening, and clip the excess strap after installation. Ties can be installed without the pliers, however. Made by **Westinghouse Electric Corp.**, Box 2099, Pittsburgh 30, Pa.

▲ For more details circle **NED-283 B9** on enclosed inquiry slip ▲

From high vacuum to 20,000 PSI and −85°F. to +360°F., only Stat-O-Seals offer safe, sure, effective sealing using the principle of controlled confinement of the seal plus **mechanical** bonding.

They will not "twist" in installing and there's no chemical bonding agent that can be attacked by corrosives . . . and: metal-to-metal contact; quick, visual inspection; simple, one-piece assembly; re-useable; o-ring style configuration for versatility and freedom from damage.

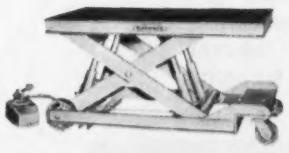
By the makers of Parker O-rings and Gask-O-Seals.

Parker SEAL COMPANY
CULVER CITY, CALIF. • CLEVELAND, 12, OHIO
A DIVISION OF Parker Hannifin CORPORATION

▲ For more details circle **NED-284 B9** on enclosed inquiry slip ▲

RAYMOND HYDRAULIC EQUIPMENT

PORTABLE ELEVATING TABLE
For die handling, feeding, positioning. Telescopic and Non-Telescopic Models. Cap. 2,000 lbs.



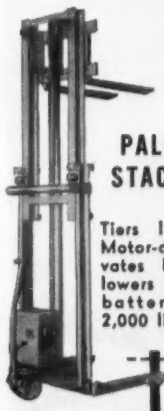
SHEET FEEDING TABLE
Keeps sheets, strips at right working level. Increases production, makes jobs safer, easier. Cap: 2,000 to 30,000 lbs.

RAYMOND

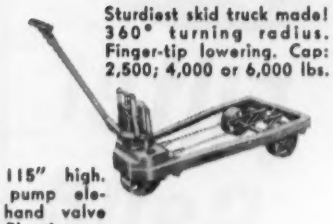
LIGHTWEIGHT PALLET TRUCK
Rugged, maneuverable. 270° turning radius. Separate lift and lowering pedals. Cap: 2,000 lbs.

HEAVY-DUTY PALLET TRUCK
Handles your heavier loads. 360° turning radius. Finger-tip lowering. Cap: 4,000 or 6,000 lbs.

RAYMOND



PALLET STACKER
Tiers loads 115" high. Motor-driven pump elevates load, hand valve lowers it. Plug-in or battery-powered. Cap: 2,000 lbs.



SKID TRUCK
Sturdiest skid truck made! 360° turning radius. Finger-tip lowering. Cap: 2,500; 4,000 or 6,000 lbs.

SEND FOR FREE BULLETINS

The RAYMOND CORPORATION
4124 Madison St., Greene, N.Y.

Please send Bulletins on the following:
- ☐ Portable Elevating Table
- ☐ Lightweight Pallet Truck
- ☐ Pallet Stacker
- ☐ Sheet Feeding Table
- ☐ Heavy-Duty Pallet Truck
- ☐ Skid Truck

NAME TITLE
COMPANY
STREET
CITY STATE

▲ For more details circle **NED-285 B9** on enclosed inquiry slip ▲

BENDIX SR RACK AND PANEL CONNECTOR

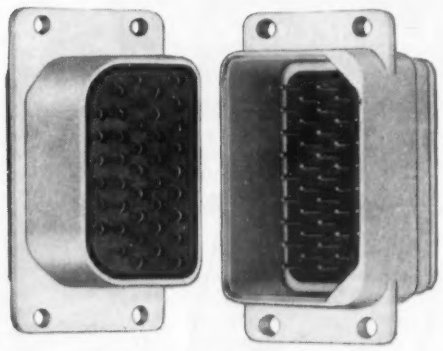
with outstanding resistance to vibration

The Bendix type SR rack and panel electrical connector provides exceptional resistance to vibration. The low engagement force gives it a decided advantage over existing connectors of this type.

Adding to the efficiency of this rack and panel connector is the performance-proven Bendix "clip-type" closed entry socket. Insert patterns are available to mate with existing equipment in the field.

Available in general duty, pressurized or potted types, each with temperature range of −67°F to +257°F.

Here, indeed, is another outstanding Bendix product that should be your first choice in rack and panel connectors.



FEATURES:

Resilient Insert • Solid Shell Construction • Low Engagement Forces • Closed Entry Sockets • Positive Contact Alignment Contacts—heavily gold plated Cadmium Plate—clear irridite finish • Easily Pressurized to latest MIL Specifications.

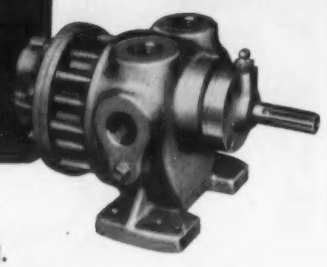
SCINTILLA DIVISION
SIDNEY, NEW YORK
Bendix AVIATION CORPORATION

Export Sales and Service: Bendix International Div., 205 E. 42nd St., New York 17, N. Y.
Canadian Affiliates: Aviation Electric Ltd., 200 Laurentien Blvd., Montreal 9, Quebec.
Factory Branch Offices: Burbank, Calif.; Orlando, Florida; Chicago, Illinois; Teaneck, New Jersey; Dallas, Texas; Seattle, Washington; Washington, D. C.

▲ For more details circle **NED-280 B9** on enclosed inquiry slip ▲

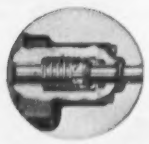
ROPER SERIES F

WITH 4-PORT DESIGN FOR 8 OPTIONAL ARRANGEMENTS



PUMP CLEAN LIQUIDS OF ALL KINDS AT PRESSURES TO 300 P.S.I. . . . 1 to 300 G.P.M. SIZES

Pumps that give *positive power* for hydraulic circuits. Installation time and design problems reduced because 4-port feature offers eight optional piping arrangements (4 for CW and 4 for CCW rotation). Supplied with or without relief valve . . . with packed box or mechanical seal.



Mechanical Seal
Ideal where repacking is not convenient.

ROPER ROTARY PUMPS

ROPER HYDRAULICS, INC.
662 Blackhawk Park Ave.
Rockford, Illinois

▲ For more details circle NED-286 B9 on enclosed inquiry slip ▲

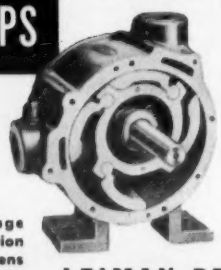
Handle all these operations with AIR VACUUM SUCTION PRESSURE

—and for the most efficient, low-cost air source, *use*

- Lifting
- Holding
- Sorting
- Separating
- Mixing
- Feeding
- Filling
- Instrument Testing
- Vacuum Forming
- Agitating
- Chucking

LEIMAN Rotary Positive AIR PUMPS

Vacuum—suction—or pressure supplied by Leiman Air Pumps is the most simple, reliable, low-cost method of handling countless operations. Exclusive hinged vane design provides greater capacity with smaller pumps, slower speeds. Durable, precision cast iron and steel parts take up their own wear, to assure "lifetime" dependability.



- Even, pulseless flow
- No tanks needed
- Vacuum or pressure from same pump
- Quiet running
- Little or no maintenance
- Every pump tested before shipment

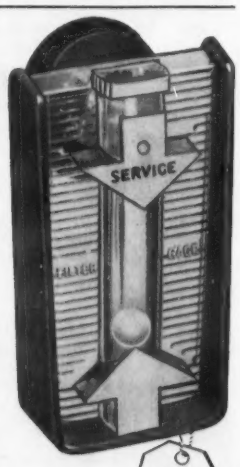
Many models:
VACUUM to 29.9" Hg.
PRESSURE to 20 psig.
VOLUME to 162 c.f.m.

WRITE FOR 16-page catalog and Application Book showing dozens of "how-to-do-it" blueprints.

LEIMAN BROS., Inc.
167 Christie St., Newark 5, N. J.
Established 1887

▲ For more details circle NED-287 B9 on enclosed inquiry slip ▲

new... THE Dwyer Filter Gage



tells exactly when to change filters . . .
lasts indefinitely . . .
fits all furnace and air conditioning units . . .

costs only $1.95

one hole, 60 second installation

Individually packaged with display/merchandising counter sales carton. A foolproof filter gage that really works, sold on a satisfaction or money-back guarantee. Write for free sample and discounts.

F. W. DWYER MFG. CO.
P. O. BOX 373-Q MICHIGAN CITY, INDIANA

▲ For more details circle NED-288 B9 on enclosed inquiry slip ▲

DRAWING REPRODUCTION movie shows latest techniques

How large and small industrial concerns can boost efficiency and cut drafting costs by utilizing photo - reproduction is illustrated in a 23-min color movie. Titled "Photo - Reproduction," it covers subjects ranging from reclamation of illegible originals to cut-and-insert work on photographic engineering intermediates. It takes the viewer through a model reproduction department, showing the latest cost-saving kinks. Emphasis is focused on typical cost problems. For showings, write to **Eastman Kodak Co.**, Graphic Reproduction Div., 343 State St., Rochester 4, N. Y.

▲ For more details circle NED-289 B9 on enclosed inquiry slip ▲

ELECTROLUMINESCENT LAMPS 2 x 2 to 24 x 24-in. panel sizes are standard in three colors

Thin, flat shape of Rayescent electroluminescent lamps suits them for difficult lighting applications where even distribution of light over the entire surface is

desired. They produce practically no heat in consuming a negligible amount of electrical current. Lamps consist of a sheet of glass with an electrical conductive coating and a phosphor layer. When voltage is applied, light is produced by the phosphor.

Lamps are available in standard sizes from 2 x 2 in. to 24 x 24 in. in green, blue, and yellow. The green units are the brightest. Conservative rated life is 5000 hr. These sealed lamps will operate continuously at 122° F in 50 per cent relative humidity.

Special sizes and shapes to the above maximum can be made. Data, legends, or markings may be silk screened on the glass before processing. Segments or areas can be lighted independently of other portions of the lamps. When operated at other than 120 v, 60 cycles ac, a simple transformer is required. Made by **Westinghouse Electric Corp.**, Lamp Div., MacArthur Avenue, Bloomfield, N. J.

▲ For more details circle NED-290 B9 on enclosed inquiry slip ▲

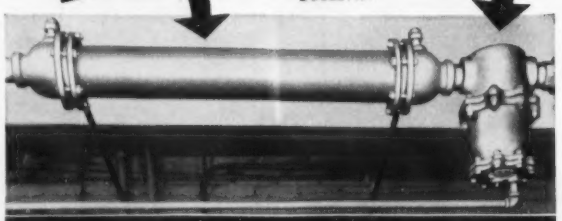
Here is the pair for clean, dry air . .

JOHNSON AFTERCOOLER
Used where moisture is vaporized by the heat of compression. Circulates cooling water around the line, condenses the oil and water vapor so Separator can remove them. Simple in design, highly efficient in performance.

SIZES FOR ALL NEEDS

JOHNSON SEPARATOR
Removes more than 99% of all water, dirt and oil from compressed air or steam. Combines the *two* best principles of separation—first allows air to expand slightly, then changes flow direction with the "Thousand Baffles". Model illustrated is the newest idea in separator design, with self-draining trap mechanism built right in.

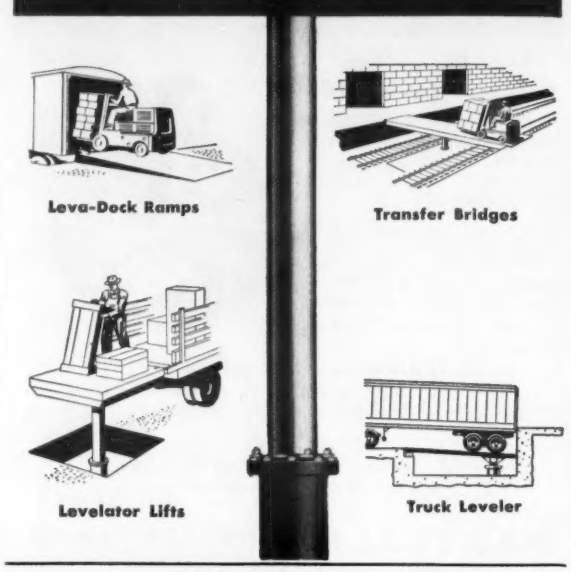
WRITE FOR BULLETIN



The Johnson Corporation
812 Wood Street Three Rivers, Michigan

▲ For more details circle NED-291 B9 on enclosed inquiry slip ▲

Rotary OILDRAULIC POWER
Cuts the cost of lifting heavy loads



Write for catalogs
ROTARY LIFT CO., 1057 KENTUCKY, MEMPHIS, TENN.

▲ For more details circle NED-292 B9 on enclosed inquiry slip ▲

CROSBY-LAUGHLIN Load-Rated* FITTINGS
FOR YOUR DESIGN
Save design time, shop time—specify Crosby-Laughlin* LOAD-RATED Fittings that are pre-designed . . . *ready immediately* for your application. Always consistent, these fittings have uniform appearance . . . quality . . . no rejects! Free specifications catalog contains engineering-dimensional data on over 2000 items. Order from the world's most complete line of drop forged fittings for wire rope and chain. Industrial, construction and mill supply distributors have catalog —or write:
*Trademark
CROSBY-LAUGHLIN Division
AMERICAN HOIST & DERRICK COMPANY
FT. WAYNE, INDIANA

▲ For more details circle NED-293 B9 on enclosed inquiry slip ▲

NOW! IMPROVE PRODUCTION – LOWER MAINTENANCE COSTS with

K-LENS-M
BETTER VISION PRODUCTS

The Modern Liquid Method that Cleans Glass or Plastic at Lower Cost per Cleaning.

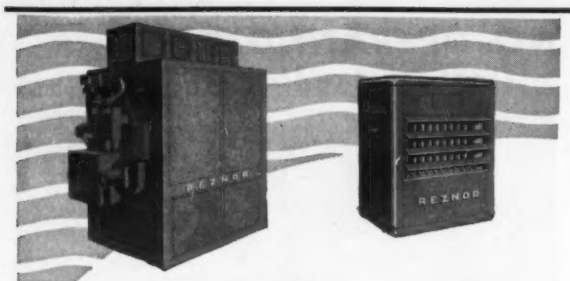
The K-Lens-M Goggle Cleaning Station cuts down maintenance time for refilling; holds 1400 K-Lens-M lens tissues; dispensing one sheet at a time; holds full 16 oz. bottle of K-Lens-M lens cleaner.

For FREE Sample: Send company letterhead

The WILKINS Co., Inc.
Cortland 32, N. Y.

Wise to Choose — Safe to Use
© Copyright, The Wilkins Co., Inc. 1959

▲ For more details circle NED-294 B9 on enclosed inquiry slip ▲



low maintenance cost

It costs you next to nothing to maintain your heating system when you have Reznor gas heaters. A few minutes per heater once a year for motor lubrication should be your total maintenance time. And no skilled labor is required. Heater failures? Simple, fool-proof design and quality construction make them a rarity.

LOW MAINTENANCE COST is just one of many reasons why Reznor gas unit heaters are right for so many plant heating jobs. Whether you need one heater to eliminate a "trouble" spot or enough units for a complete plant heating system, ask your Reznor distributor for details or write for your free copy of "Modern Heating".

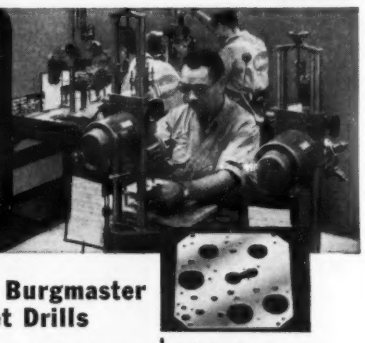
Look for Reznor under "Heaters-Unit" in the Yellow Pages

REZNOR
WORLD'S LARGEST-SELLING DIRECT-FIRED
UNIT HEATERS

Reznor Manufacturing Company, 44 Union Street, Mercer, Pa.

For more details circle NED-295 B9 on enclosed inquiry slip

100% Increase in Precision Drilling and Reaming



with Model "O" Burgmaster 6 Spindle Turret Drills

In a wide variety of precision drilling, Hoffman Laboratories Division has increased the rate of drilling small holes over 100% for all types of component parts. In the operation illustrated, 3 Model "O" Burgmasters drill and ream 43 holes (86 operations) in a gear box end plate in 8 minutes to ±.0002", −.0000" centers and ±.0001" diameters! This end plate is responsible for the alignment of gears with maximum permissible back lash of .0001".

High production of 43 holes in seven different sizes is made possible by **POWER INDEXING** of the turret which rotates a sequence of tools around a common point at operator demand to rapidly perform a series of operations with minimum operator exertion and shifting of fixtures. Fine finish and accuracy are further assured by **preselective speed** and **depth control** for each spindle as well as a **sensitive feed** handle. Tapping may be readily performed.

At Hoffman, they also like their Burgmasters because they require fewer drill fixtures to do a given job while permitting multiple spindle drilling operations to be performed in vastly smaller space than with a line of single spindle drills.

Job facts:
Company: Hoffman Laboratories Division, Hoffman Electronics Corporation, Los Angeles, Calif.
Machines: 3 Burgmaster Model "O" 6 Spindle Turret Drills.
Part: Gear Box End Plate, Lot Size 100.
Material: Brass, 3.688x3.688x.081
Accuracy: ±.0002,−.0000 centers, ±.0001 dia.
Machining Time: 8 min. all Holes — 43 holes — 86 operations.
Operations: Drill & Ream all 4-.140", 2-.6255", 3-.8125", 8-.1875", 23-.0785", 2-.250", 1-.1562".
Advantages: Overall savings 100% on miscellaneous component parts-greater accuracy—vastly less floor space — less operator fatigue.
Machine Cost: $550 per Machine X3 = $1650 instead of $3000 to $5000 for single spindle drills.

Your nearest dealer will be glad to give a free demonstration of the Burgmaster to prove how you can cut your drilling costs. Ask for free literature.

MODEL "O" 1/4" CAP. IN STEEL

BURGMASTER

BURGMASTER CORPORATION
SMALL TOOL DIVISION — BURG TOOL MANUFACTURING CO., INC.
15001 South Figueroa Street, Box 311, Gardena, California
Phone: FAculty 1-3510 — Phone, wire or write Dept. OA

For more details circle NED-296 B9 on enclosed inquiry slip

NEW!

MOLYKOTE® Newsletter On "Wear-In" Of Machinery

One of the most thorough and complete studies of machinery "wear in" ever made!

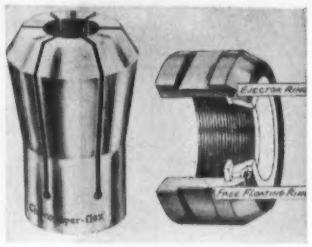
Send For Your Copy Immediately To:

THE ALPHA-MOLYKOTE CORPORATION
STAMFORD, CONN. (PHONE FIRESIDE 8-3724)
PLANTS IN STAMFORD, CONN. • MUNICH, GERMANY
STRASBOURG, FRANCE

Molykote® LUBRICANTS
Breaking Lubrication Barriers Through Research

For more details circle NED-297 B9 on enclosed inquiry slip

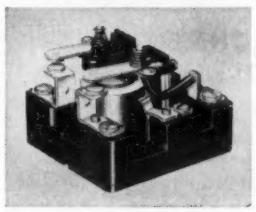
TOOL HOLDING COLLET
made in 1/8 to 2 1/2-in. tool sizes



Exceptional tool holding power is afforded by Super-Flex Chi-Co collets which are made in 1/8 to 2 1/2 in. sizes in 1/32 - in. increments. Each is made of Maxel steel and test-bar inspected for true alignment. Easy flexing spring action is confined to skirt beyond the taper. Jaws remain rigid. Tools are thus automatically centered and gripped by total area of full length jaw surfaces. Automatic tool ejection speeds tool changing. Collet is both collapsed and released by collet ejector nut. Series A has 1/8 to 1/2-in. capacity; Series B, 1/8 to 3/4-in.; Series C, 3/8 to 1 1/4-in; and Series D, 1 1/4 to 2 1/2-in. Made by **Chi-Co, Inc.**, Ledge Road, Northfield, Ohio.

For more details circle NED-298 B9 on enclosed inquiry slip

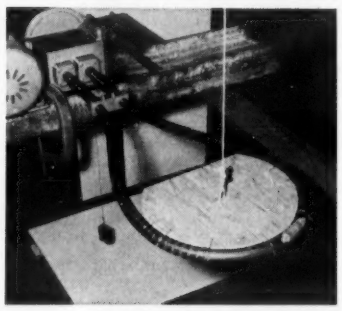
POWER RELAY
heavy duty unit rated at 25 amp



Designed to meet UL Specifications, the Model 2210-U power relay features an interchangeable coil that can be removed and replaced in a few minutes. Contact assemblies are also rapidly replaced by removing terminal screws. The heavy duty 25-amp unit is a double-pole single-throw, normally-open device. Made by **Guardian Electric Mfg. Co.**, 1621 W. Walnut St., Chicago 12, Ill.

For more details circle NED-299 B9 on enclosed inquiry slip

HIGH SPEED FLEXIBLE SHAFT
rubber covered, operates at 6900 rpm



This rubber-covered high - speed power drive shaft has a tightly wound precision flexible shaft core and ball bearings at each end. Models 40HSP, 50HSP, and 63HSP with respective flexible shaft core sizes of 3/8, 1/2, and 5/8 in. operate at maximum speeds of 6900, 6900, and 5750 rpm. Couplings on each end are bored to fit the particular application. Photo shows shaft in dynamic life test in a 180-degree bend. Made by **Stow Mfg. Co.**, 26 Shear St., Binghamton, N. Y.

For more details circle NED-300 B9 on enclosed inquiry slip

Don't ruin a valuable piece of equipment merely because some part is rusted tight. Apply Kroil, the amazing new chemical lubricant that creeps into millionth inch spaces (proved by laboratory tests), dissolves rust, supplies necessary lubrication and

LOOSENS FROZEN PARTS

18,000 of America's leading plants can't be wrong! They have used KROIL for 10 years and are still depending on it to save expensive labor and valuable parts. They say: "Kroil loosened bushings after a 12-ton press had failed" . . . "on repairing heat treat trolleys formerly destroyed every nut. Now Kroil saves them all, and time, too" . . .

You too should be using KROIL every day. Try it on money-back basis. Gallon $4.00; with Kroiler trigger squirt gun (shoots a drop or a stream 15 feet, if desired) $4.95, f. o. b. our factory.

KANO LABORATORIES 1074 Thompson Lane, Nashville 11, Tenn.

KANO LABORATORIES

For more details circle NED-301 B9 on enclosed inquiry slip

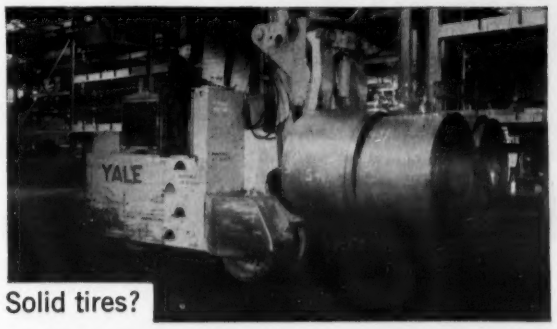
Robertshaw's Vibraswitch Malfunction Detector protects machinery from costly damage due to excessive vibration. Instantly sensing beginning of destructive vibration caused by *failing bearings, bent shafts, broken blades, overspeeding,* Vibraswitch actuates an alarm or shuts down malfunctioning equipment.

Available in various models, Vibraswitch may be easily installed on large motors, fans, compressors, pumps, other rotating or reciprocating machinery. Write for Technical Bulletin RF-586. **Aeronautical and Instrument Div., Robertshaw-Fulton Controls Company, Santa Ana Freeway at Euclid Avenue, Anaheim, California.**

For more details circle NED-302 B9 on enclosed inquiry slip

B.F.Goodrich

Pneumatic tires?



Solid tires?

Which industrial tires are best for your job? Free B.F.Goodrich TW Analysis tells you

Can save you as much as 50% on tire costs!

Problem: There are many different industrial tire types, sizes, tread compounds and tread designs. Each one is built for a specific materials handling job. Do you know which tires are right for *your* job?

Solution: Without obligation your B.F.Goodrich Tire and Wheel Analysis man will study your equipment, loads, hauling surfaces and other special problems you have. He'll recommend the right tires for you to use—recommendations that are unbiased because B.F.Goodrich makes a *complete* line of industrial tires.

Result: You can save as much as 50% on industrial tire costs, as much as 20% on maintenance costs. Mail the coupon today for your FREE B.F.Goodrich TW Analysis.

A special consulting service is available to manufacturers of materials handling equipment.

Specify B.F.Goodrich tires when ordering new equipment

B.F.Goodrich Smileage!

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B.F.Goodrich Tire Company
A Division of
The B.F.Goodrich Company
Department TW-747,
Akron 18, Ohio

I would like further information on your FREE TW Analysis.
NAME_____
COMPANY_____
STREET_____
CITY_____ ZONE____ STATE____

B.F.Goodrich *industrial tires*

For more details circle NED-303 B9 on enclosed inquiry slip

TIME-SAVING DELIVERY FROM STOCK!

...on Carpenter Stainless No. 20 and 20 Cb

- best answer to most corrosion problems
- excellent workability and weldability
- outlast other stainless and high alloy steels
- cut-to-size orders filled promptly from nation-wide stocks
- wide range of sizes available from stock
- order from any Carpenter representative or distributor in over 40 cities
- Send for Technical Bulletin 108A and latest stock list

THE CARPENTER STEEL COMPANY
Alloy Tube Division, Union, N.J.

For more details circle NED-305 B9 on enclosed inquiry slip

Let us send you this NEW DELTA CATALOG

. . . It puts the world's most complete line of power tools at your finger tips—offers a single source for 53 machines, 246 models, over 1300 accessories. You can match the tool to your job—in woodworking or metal-working—in maintenance, in crating, in production.

Save money because:

- *DELTA TOOLS COST LESS TO BUY, OPERATE, AND MAINTAIN*
- *DELTA TOOLS ARE FLEXIBLE, CAN OFTEN REPLACE COSTLY SINGLE-PURPOSE MACHINES*

Send For Your FREE Catalog Today!

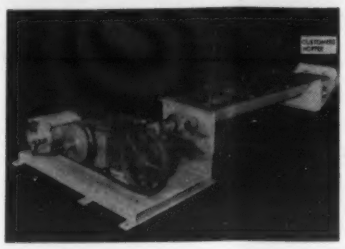
Complete descriptions and specifications of every Delta tool and accessory. See the complete line at your nearest Delta Dealer . . . he's listed under "TOOLS" in the Yellow Pages.

Rockwell Manufacturing Co., Delta Power Tool Division
626B N. Lexington Ave., Pittsburgh 8, Pa.

DELTA INDUSTRIAL TOOLS
another fine product by
ROCKWELL

For more details circle NED-306 B9 on enclosed inquiry slip

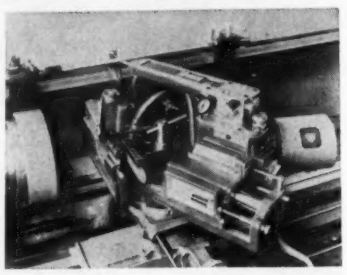
GRANULAR BULK FEEDERS
line has 0-3000 cu ft per hour sizes



Self - contained line of bulk feeders which can be bolted to the base of the user's hopper consists of a totally enclosed motor, reducer, drive, guard, screw, and housing with a flanged inlet and flanged outlet. Dry granular capacities of the Screwfeed units range from 0 to 3000 cu ft per hour. Certain modifications can be made on the standard units, such as the size of inlet or outlet, or the motor style and location. General purpose style is built of carbon steel, the corrosion resistant style of Type 304 stainless steel, and the sanitary style with easily disassembled and cleaned parts of Type 304 stainless steel. A variable speed drive can be furnished where rate of feed is critical or must be varied. Custom built hoppers of any material can be supplied. Made by **M-H Standard Corp.**, 517 Communipaw Ave., Jersey City 4, N. J.

For more details circle NED-307 B9 on enclosed inquiry slip

LATHE TRACER ATTACHMENT
for lathes up to 27½-in. swing



Any standard lathe with up to 27½-in. actual swing and 30 hp, plus most makes of turret and automatic lathes, can be equipped with the self - contained, hydraulically - operated lathe tracer attachment. It is mounted in place of the standard compound slide and may be swiveled to any desired angle for internal or external work. Round or flat shapes in wood or metal may be used as templates, or a standard work piece may be used. Micrometer adjustment on the tracer stylus compensates for wear in the copy piece or leaves extra metal for finish grinding. Feed rate is adjustable from 1 to 35 ipm and rapid traverse up to 80 ipm may be employed. Tracer units are offered with 4½, 5, and 5½-in. strokes. Made by **Leland-Gifford Co.**, Lincoln Highway, Worcester 1, Mass.

For more details circle NED-308 B9 on enclosed inquiry slip

Industrial Controls

Euclid Electric & Mfg. Co.—Broad line of pushbutton stations, speed-responsive switches, resistors, Mannetic assembled controllers, contactors and relays, drum controllers, and various other products are illustrated and briefly described in 8-page Bulletin 958. Both individual products and assembled controllers are covered.

For more details circle NED-309 B9 on enclosed inquiry slip

KEEP MACHINES RUNNING
...reduce maintenance costs,

with DEUBLIN ROTATING UNIONS

¾" Size Union Illustrated

for water, steam and air service!

Here is a compact, efficient rotating union—

- ★ LEAKPROOF
- ★ CORROSION PROOF
- ★ EASY TO SERVICE
- ★ VIRTUALLY FRICTIONLESS
- ★ PRECISION BUILT FOR LONGER LIFE
- ★ INTERCHANGEABLE with any other rotating union
- ★ VERSATILE—For Monoflow or Duoflow operation, available in ½", ¾", 1", 1¼" and 1½" sizes
- ★ MINIMUM TORQUE makes it ideal for high speed applications

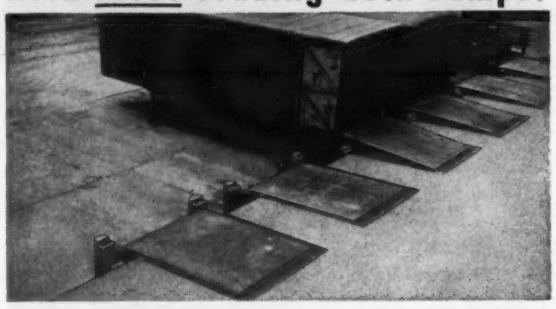
See how this dependable, new rotating joint can reduce inventory of replacement parts because of Deublin's standardization of sizes. Keep "shut downs" from wrecking your production schedules. Pays for itself many times over.

Write today for full details and prices.

DEUBLIN COMPANY
1151 Waukegan Road
Glenview, Ill. (Chicago Suburb)

For more details circle NED-310 B9 on enclosed inquiry slip

NO OPERATING COST with these loading dock ramps!



RITE-HITE Full Automatic RAMPS are completely truck actuated... save manpower for other work

Consider, too, these additional Rite-Hite advantages:

- *Precision, mechanical counterbalance—no starters, motors, pumps, cylinders, piping, wiring, gears, cables to cause trouble.
- *Little or no maintenance—heat, cold, snow, water, ice do not effect Rite-Hite's smooth operation.
- *Maximum safety—Rite-Hite's ramp platform can never drop because of a power failure.
- *Simplest to install—shipped *completely* assembled for easy installation in simple dock opening.

10-TON CAPACITY

You'll want full details. Write Dept. N-29

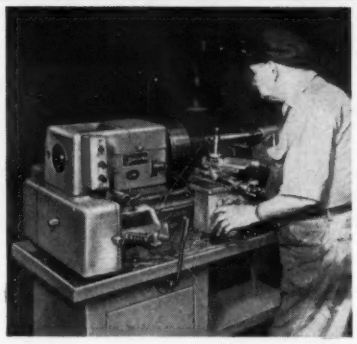
RITE-HITE DIVISION
LOOMIS MACHINE COMPANY
133 EAST FOURTH STREET, CLARE, MICHIGAN

For more details circle NED-311 B9 on enclosed inquiry slip

PROOF OF PERFORMANCE

"Clausing 5400-series lathes are dependably accurate—easy to operate—have more stamina than lathes of comparable size. We have 7 and we're sold on them—they're the biggest lathe value we've found."

ALMOR TOOL COMPANY, Detroit, Michigan



"Dependably accurate — have more stamina, CLAUSING 5400-SERIES LATHES are the biggest lathe value we've found"

This reaction to Clausing 5400-series 12¾" lathes is typical of user reports. Here are a few reasons why—

"Dependably accurate"—Spindle turns on Timken "Zero-Precision" tapered roller bearings. Bedways are flame hardened, precision ground. Accuracy is *verified* by test report with each lathe.

"More stamina"—Has massive bed, headstock, apron, tailstock—forged steel spindle—three V-belts driving spindle pulley—heavy-duty variable speed drive or heavy-duty 10-speed countershaft. More *"beef" throughout.*

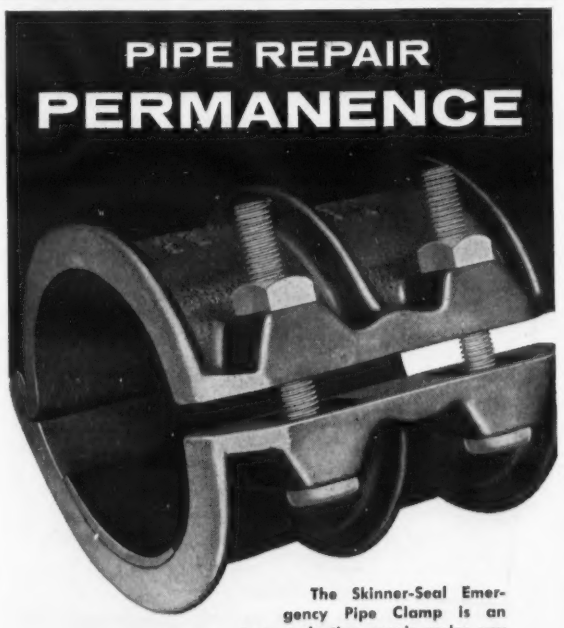
Get *all* the facts, compare, and you, too, will find Clausing *"the biggest lathe value"! Prices start at only $1075.*

Write for FREE LITERATURE

CLAUSING
CLAUSING DIVISION
ATLAS PRESS COMPANY
2-113 N. PITCHER ST., Kalamazoo, Mich.

For more details circle NED-312 B9 on enclosed inquiry slip

PIPE REPAIR PERMANENCE

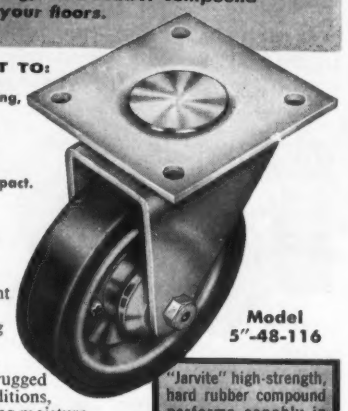


The Skinner-Seal Emergency Pipe Clamp is an instant, lasting repair under any operating condition. Rugged malleable iron. Anyone can apply in a few moments. Made in all sizes, ½" to 12", for steel and C. I. pipe. Stocked by practically all supply stores.

M. B. SKINNER CO., South Bend 21, Ind.—Established 1898

For more details circle NED-313 B9 on enclosed inquiry slip

NOISELESS
CASTERS
WITH "JARVITE"
the long wearing, hard rubber compound that's kind to your floors.



PROVED RESISTANT TO:
Steam and Hot Water Cleaning, Wide Temperature Extremes 32° to 100° F. Sanitation Treatment, Fats, Fruit Acids, Milk Acids, High Humidity, Chipping, Impact.

"Jarvite" withstands heavy loads (up to 1800 lbs. on four 5" casters) without flattening, yet permits smooth movement over fine wood floors without gouging, marking or rutting the surface. Model 48-116 casters are designed throughout for rugged resistance to adverse conditions, particularly those involving moisture and extremes of temperature.

Model 5"-48-116

"Jarvite" high-strength, hard rubber compound performs capably in humid temperatures ranging from 32° to 100° F... will not develop soft spots or damage wood floors.

Jarvis AND Jarvis, Inc. PALMER, MASSACHUSETTS

Sales Representatives in Leading Cities Throughout the Country

Sold through Quality Dealers

Jarvis & Jarvis of Canada, 1744 William St., Montreal, Que.

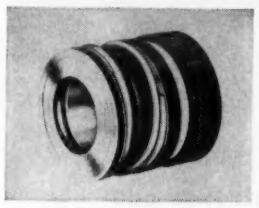
For more details circle NED-314 B9 on enclosed inquiry slip

PIPE HANGER RING
adjustable type has locking insert

Auto - Grip universal adjustable pipe hanger ring consists of a metal band and a locking insert for attachment to a threaded hanger rod. The insert is made self-locking through spring action and the weight of the pipe supported. Ring is zinc or copper plated. One size accommodates ½ to 3½-in. pipe. Other finishes and special metals are available. The band may be reshaped if conditions require. Maximum safe loading is 500 lb. Made by **Automatic Sprinkler Corp. of America**, Youngstown 1, Ohio.

For more details circle NED-317 B9 on enclosed inquiry slip

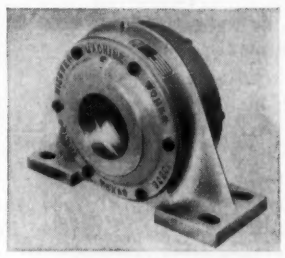
ROTATING SHAFT SEAL
for ⅝, ¾, and 1-in. diameters



Suited for use in water and oil pumps, speed reducers, or appliances, Garlock H seal will contain any fluids that will not attack the Buna-N or brass parts. The carbon face withstands high loads and heat. Seal can be mounted on shaft from either direction, and it can be used on pressures to 75 psi, temperatures to 212° F, and with shaft speeds to 1000 fpm. Sizes are made for ⅝, ¾, and 1-in. diameter shafts by **Garlock Packing Co.**, 431 Main St., Palmyra, N. Y.

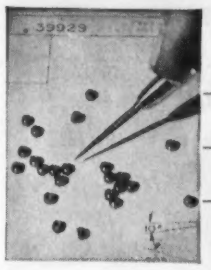
For more details circle NED-318 B9 on enclosed inquiry slip

PILLOW BLOCKS
20 basic housings for 94 bearings



Through interchangeable end caps, this line of pillow blocks will accommodate all series of spherical roller bearings. Twenty basic housings will take 94 separate bearings, with some housings taking as many as eight different bearing sizes and up to eleven shaft diameters. To install a different bearing size, it is necessary only to fit new end caps on the housings. Housings are center-grooved for universal center lubrication to W-20 and W-33 specifications, and end caps have a second connection for side lubrication. Either labyrinth closures or oil seals are available on most caps. Housings also feature a reinforcing center rib to withstand shock loads, bases machined on both ends and bottom, and machined bolting surfaces. Made by **Miether Machine Works**, Box 3907, Odessa, Tex.

For more details circle NED-319 B9 on enclosed inquiry slip



Microsize FLEXLOC locknuts fasten small assemblies with complete reliability

Microsize FLEXLOC locknuts, one-piece and all-metal, meet designers' needs for tiny precision nuts that retain strength and holding power in the smallest assemblies—servomechanisms, electronic and electrical equipment, and many other miniature devices. They are much smaller and lighter than regular FLEXLOCS of the same nominal diameter. They are not affected by moisture, dryness or oil; are not shaken loose by vibration; have no nonmetallic inserts to come out; stay put anywhere on a threaded member as soon as the locking threads are fully engaged.

Sizes 0-80 through 4-48 in alloy steel, stainless steel, brass and aluminum are available through SPS industrial distributors. Ask the one nearest you for complete details. Or write Flexloc Locknut Division, STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

We also manufacture precision titanium fasteners / write for free booklet

SPS Jenkintown • Pennsylvania
Standard Pressed Steel Co. • The Cleveland Cap Screw Co. • Columbia Steel Equipment Co. • National Machine Products Co. • Nutt-Shel Co. • SPS Western • Standco Canada Ltd. • Unbrako Socket Screw Co., Ltd.

For more details circle NED-320 B9 on enclosed inquiry slip

IT'S EASY TO STRIP OFF PAINT and Solve Your Stripping Problems with—
EPOXYSTRIP

PAINT STRIPPER—Saves Time and Money!
A new more powerful paint stripper that outstrips all others! No organic finishes have yet resisted this amazing paint stripper. It was especially formulated to remove epoxies . . . with the same ease that it removes baked enamels, lacquers, etc. No stripping scum—clean rinsing!

- EPOXYSTRIP WILL NOT HARM SOFT METALS
- ECONOMICAL—MORE JOBS PER GALLON AT LOWER COST
- NO SCRUBBING OR MANUAL ASSISTANCE
- RECOMMENDED BY LEADING FINISH MANUFACTURERS

SEND FOR FREE BROCHURE

JOBBERS: Beck EPOXYSTRIP sells on demonstration. Try it and see for yourself.

BECK EQUIPMENT COMPANY
3350 WEST 137th STREET — CLEVELAND 11, OHIO

For more details circle NED-315 B9 on enclosed inquiry slip

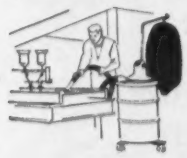
SUCTION
. . . for YOUR PRODUCTION

TORNADO®
SERIES 400
VACUUM CLEANERS

Smart production men are using powerful Tornado suction for production savings.

It's so easy and simple to use a Portable Tornado Suction Machine. Use it to remove debris from inside of products—to pick up oils and liquids—to reclaim scrap for salvage.

JUMBO UNIT
If you need larger capacity, Tornado supplies a Jumbo cover to fit any of your standard 55 gallon drums. Use one or two motor units for up to 3 H.P. of suction, with hose sizes up to 3".



Big savings when you recover welding flux with a Tornado vacuum cleaner.

FOR MAINTENANCE CLEANING
What's more, this versatile Tornado has a multitude of attachments for cleaning overhead pipes, blowing dust out of electric equipment plus thousands of jobs that keep your plant neat, clean, safe and productive.

You can't turn a casting this size to shake out chips, but Tornado removes them faster than any other method.

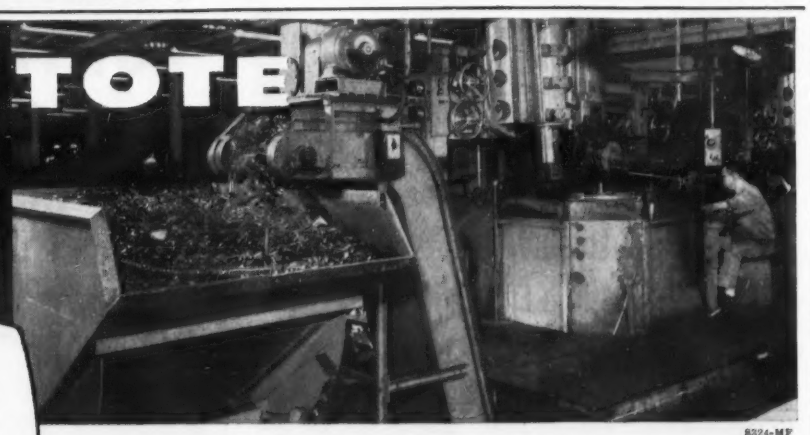
HAVE A FREE Suction Survey
A Tornado cleaning engineer will gladly call at your plant and make a free survey to show you how Tornado vacuum cleaners can work on your production line. Just write, wire or call.
Write today for Bulletin No. 894.

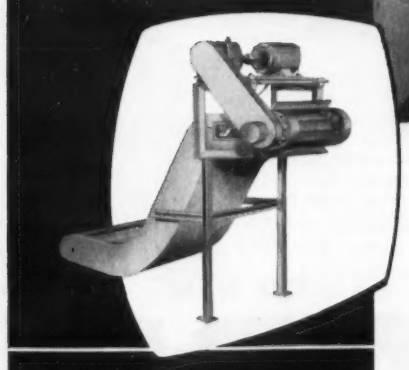
Add extra hours to production time by cleaning machine tool sumps faster with Tornado.

BREUER ELECTRIC MFG. CO.
5116 N. Ravenswood Ave., Chicago 40, Illinois

For more details circle NED-321 B9 on enclosed inquiry slip

CHIP-TOTE
means automatic and continuous scrap removal from machine tools





Cost-conscious manufacturers everywhere are actually increasing the earning power of individual machine tools with the advanced method of scrap-handling offered by Chip-Tote conveyors. Chip-Totes reduce labor and machining costs up to 20% . . . pay for themselves in six months or less! Custom-engineered from stocked component parts, Chip-Totes feature May-Fran patented hinged steel belting, steel hold-down device, integrally mounted motor, adjustable safety clutch.

Get all the facts . . . write today for Bulletin MF-640

MAY-FRAN ENGINEERING, INC.
1711 Clarkstone Road
Cleveland 12, Ohio

For more details circle NED-316 B9 on enclosed inquiry slip

GUARANTEED

to give drip-tight leak-proof seal

greatest name in unions

DART

For over 55 years the firm guarantee back of each and every DART UNION sold has been — *"if one should leak through we will give you two"!* The record reveals that less than 1 in every 100,000 has proven to be faulty. The extra wide bronze to bronze seats, precision ground to a true ball joint, mounted in heavy malleable iron pipe ends and protected by an extra heavy union nut, make a drip-tight, leak-proof connection WITHOUT EXCESSIVE WRENCHING time and time again.

Guarantee positive tight connections and extra long service on your pipe lines by using the DART GUARANTEED UNION.

Yours on request: Descriptive brochure on Dart Unions and Union Fittings.

DART UNIONS *Products of* **DART UNION COMPANY PROVIDENCE 5, R. I.**

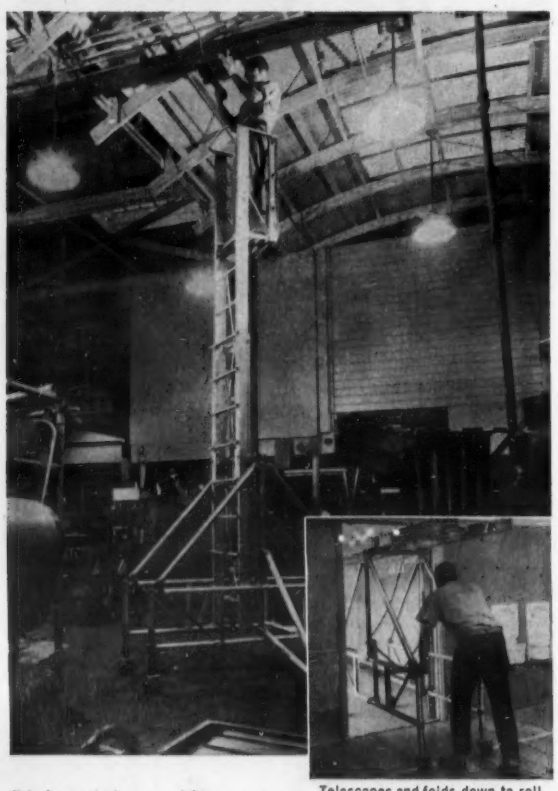
GENERAL SALES AGENT — THE **Fairbanks** COMPANY
393 LAFAYETTE STREET, NEW YORK 3, NEW YORK
BRANCHES: NEW YORK 3
PITTSBURGH 22 • BOSTON 10 • ROME, GEORGIA

▲ For more details circle **NED-322 B9** on enclosed inquiry slip ▲

UP-RIGHT ANNOUNCES A NEW WORK PLATFORM

TALLESCOPE

...telescoping aluminum structure for overhead spot maintenance



Telescopes and folds down to roll through doorways, under trusses, pipes and conveyors.

Lightweight, rapidly assembled by one man. Extends instantly for reaching heights up to 30 ft. Adjustable legs for uneven floors or stairways. Only 29" wide for rolling through congested areas.

Separates easily into 3 components for convenient storage or transportation.

FOR

TALLESCOPE CIRCULAR

WRITE TO

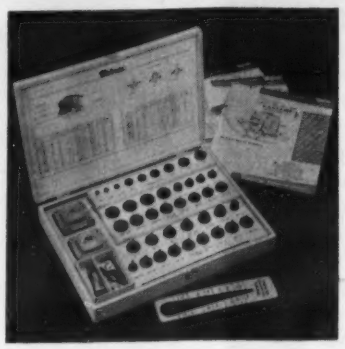
UP-RIGHT SCAFFOLDS

DEPT. 175 • 1013 PARDEE ST., BERKELEY, CALIF.

Manufactured by UP-RIGHT SCAFFOLDS

▲ For more details circle **NED-323 B9** on enclosed inquiry slip ▲

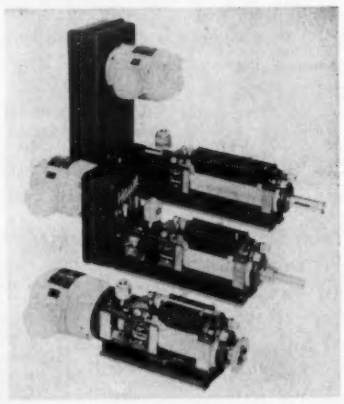
SPEED CHANGER KIT for assembly of 29 different ratios



Ratios from 1:1 to 44:1 can be assembled from components of the Bantam speed changer kit. Any of 29 different ratios can be made from housings, bearings, gears, and shafts which may be re-used. Gears are 48-pitch, 20-degree pressure angle spur type of case hardened steel. Input and output shafts each run in two ball bearings, and countershafts run on ground needle bearings. Torque rating is 130 oz-in. maximum at low speed shaft, speed is 10,000 rpm maximum at high speed shaft, and maximum horsepower is 0.1 hp at the low speed shaft. Lubricant, Allen wrench, and instructions are included. Additional shafts, gears, and housings can be purchased. Made by **Metron Instrument Co.**, 432 Lincoln St., Denver 3, Colo.

▲ For more details circle **NED-324 B9** on enclosed inquiry slip ▲

DRILL UNITS have 6 and 10-in. strokes and develop 200 to 8000 rpm



Production drilling, reaming, centering, facing, and other similar operations can be performed with self-contained, reciprocating, quill type Holomatic drill units. Now available in the 6-in. stroke Model 26 and the 10-in. stroke Model 210 in addition to the original Model 24 with 4-in. stroke, the units use compressed air for stroke actuation and thrust. Sealed hydraulic systems provide infinitely adjustable control of quill movements.

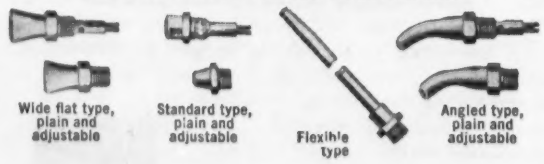
Six standard drives with ½ to 2-hp electric motors develop spindle speeds from 200 to 8000 rpm and six standard interchangeable spindles are offered for driving single tools or multiple spindle heads. Drilling capacity with 80-psi input air is 1/32 to ⅝-in. diameter holes in mild steel. With 150-psi air, capacity is 1 in. Units can be used individually or in groups with manual or automatic cycling systems. Made by **Hause Machines, Inc.**, 809 S. Pleasant St., Montpelier, Ohio.

▲ For more details circle **NED-325 B9** on enclosed inquiry slip ▲

ALL-PURPOSE BLOW-GUNS...FORGED BRASS...STAINLESS STEEL...INTERCHANGEABLE NOSES

Operates at press of button. Sturdy forged brass blow-gun has proved indispensable to hundreds of thousands of users. Easy grip and easily maintained. Airflow capacity of 25 cu. ft. Available with ¼" N.P. Thd. and ⅜" N.P. Thd. and in special type for extremely low pressure and partial vacuum use. Write today for informative literature on these blow-guns and Schrader's complete line of other types.

NOSES FOR MOST PRECISE REQUIREMENTS



Schrader®

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Inc.
459 Vanderbilt Avenue, Brooklyn 38, N.Y.

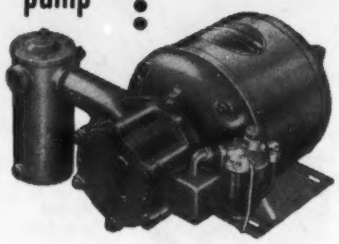
▲ For more details circle **NED-326 B9** on enclosed inquiry slip ▲

NEED VACUUM?

use the COMPACT pump

The Motoair Pump is built integral with its own motor to take the least amount of space and to avoid extra assembly necessary with separate drive.

Automatic lubrication complete with re-circulating system and visible oil reservoir is a feature of



the MOTOAIR®

Instantaneous suction and positive action is provided with the Motoair, being directly driven at the same rpm. as the motor.

ASK FOR CATALOG with performance data on various sizes of pumps Oil-less models also available.

824

NEW JERSEY MACHINE Corporation

FACTORY SALES AND SERVICE BRANCHES
CHICAGO, CINCINNATI
LOS ANGELES

1550 WILLOW AVENUE, HOBOKEN, N.J.

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Smooth Power

S-N 4 IN 1 REVERSING TRANSMISSIONS

Model 5108

Model 5201

Combine Forward • Neutral • Reverse • Reduction Up to 28 H.P.

Performance proven in thousands of machines, these midgets in size—but giants in power—solve many design and transmission problems. Engineered for maximum efficiency and economy—reverse quickly and smoothly under full load. Model 5108 up to 8 H.P.—Model 5201 up to 28 H.P.

Write for technical literature!

SNOW-NABSTEDT
Transmission Engineers
FOR OVER HALF A CENTURY
INDUSTRIAL DIVISION
THE SNOW-NABSTEDT GEAR CORP., HAMDEN, CONN.

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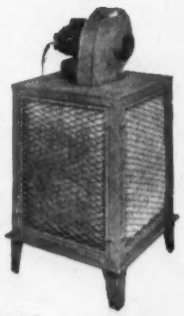
TORIT Mist Collectors CONTROL wet machining MIST

Wet machining operations produce floating fog and mist that could pollute the air in your plant. With the new Torit Mist Collector your men can breathe clean air and work in a safe, dry plant—while your maintenance costs go down! The new Torit Mist Collector filters out moisture through its spun glass filters—saves coolant that can be piped back into your cooling system. For full facts write today to... TORIT MANUFACTURING CO.
Walnut & Exchange Sts.
St. Paul 2, Minn. • Dept. 212



THE NEW

TORIT MIST COLLECTOR

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ANOTHER PANNIER MASTER MARKER!

PANNIER'S STEEL LETTERS • FIGURES
- Longer lasting, less mushrooming
- Better impressions—clear, clean
- Letters, figures, or symbols
- In sets, assorted, or singly

Pannier Tested Steel Stamps provide you with clear, clean markings, maximum safety, longer life and highest quality.

BIRTHMARKED MATERIALS

Write for data. Wide variety of sizes available.

MARKING DEVICES
THE PANNIER CORPORATION
301 Sandusky Street • Pittsburgh 12, Pa.
Offices: Los Angeles • Chicago • Cleveland • Philadelphia • Birmingham

For more details circle NED-330 B9 on enclosed inquiry slip

Unitrough Belt Conveyors are low-cost, versatile units, perfect for light duty handling.

Series "G" Belt Conveyors are heavy duty units. Years of service under maximum loading.

Unibilt Portable Loaders are ideal for loading, piling boxes, packages and sacks.

Table Top Chain Conveyors carry bottles, jars, cans, small parts or small packages.

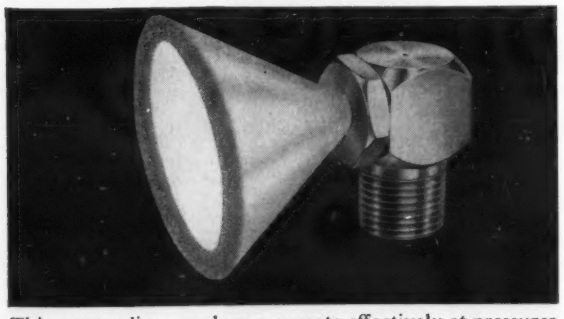
UNIBILT®
CONVEYOR SYSTEMS
You can assemble yourself

CONVEYOR SPECIALTY CO., INC.
35 Years' Experience Means Dependable Quality and Engineering
Send for NEW Full Line Brochure
40 NEWPORT AVENUE, NORTH QUINCY 71, MASSACHUSETTS

For more details circle NED-331 B9 on enclosed inquiry slip

METAL FINISHING NOZZLE PROBLEM
To select a nozzle which will efficiently spray phosphate coatings to metal surfaces.

SOLUTION
Delavan Type 2172 WR nozzle



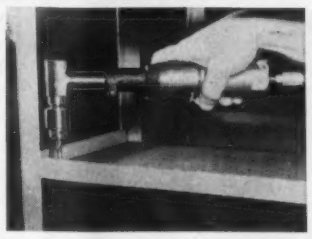
This outstanding nozzle can operate effectively at pressures as low as 5 psi. Made of 316 stainless steel, the 2172 WR offers high resistance to corrosion, assuring longer, more dependable service. There are no vanes, cores or other obstructions to promote clogging.

Whatever metal finishing nozzles you require, there's a Delavan nozzle that does the job best. Write today for Catalog 33A.

DELAVAN Manufacturing Company
WEST DES MOINES, IOWA
World's largest nozzle specialist

For more details circle NED-332 B9 on enclosed inquiry slip

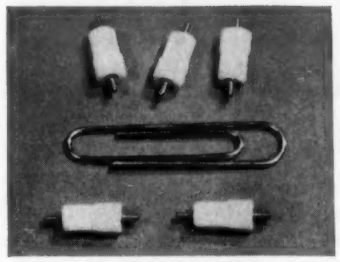
ANGLE-HEAD AIR DRILLS
speed work in corners, crevices



High production drilling in corners, crevices, and hard-to-reach locations is facilitated by two angle-head pneumatic drills. Model 400-AA, with an all-angle head, adjustable through 360 degrees, has 1/4-in. capacity, and is 8 3/4 in. long. Model 400-RA has a fixed 90-degree angle head, 1/4-in. capacity, and is 10 1/2 in. long. Both have a lever or lock button throttle control and three-jawed chuck. They are furnished in 600, 1100, 2200, 3000, and 5000-rpm speeds. Made by **Airetool Mfg. Co.**, 328 S. Center St., Springfield, Ohio.

For more details circle NED-333 B9 on enclosed inquiry slip

DOUBLE-STANDOFF TERMINAL
Teflon type requires only one hole



Actually two standoffs in one unit, the Type DST - 900 Press - Fit double-standoff Teflon terminal requires only one hole and one insertion. It consists of two straight-shank lugs mounted in a single Teflon body, but separated electrically and physically. The terminal provides separate connection points on both sides of a chassis. Made by **Sealectro Corp.**, 610 Fayette Ave., Mamaroneck, N. Y.

For more details circle NED-334 B9 on enclosed inquiry slip

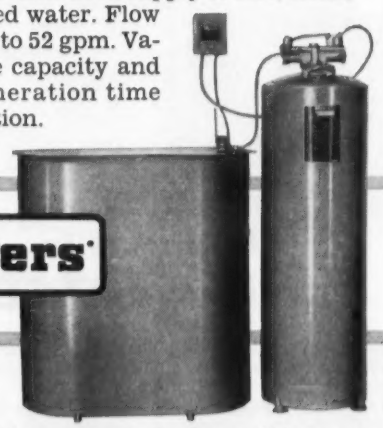
HYDRAULIC DYNAMOMETER
15-lb unit has 5000-lb capacity

Compact, accurate, and maintenance-free Hydroway hydraulic dynamometer has 0 to 5000-lb capacity and a built-in 5-to-1 safety factor. Unit is 13 in. long, weighs only 15 lb, and its maximum piston movement under full load is 0.032 in. White 6-in. dial face has black figures. Minimum dial graduation is 25 lb. A preset pointer (optional) is used for setting "not to exceed loads" or for pour-off operations. Dynamometer is sealed and weatherproof. Standard model is $140, and pointer model is $150. Made by **Hydroway Scales, Inc.**, Box 531, Oakridge Station, Royal Oak, Mich.

For more details circle NED-335 B9 on enclosed inquiry slip

Fully Automatic
Myers water softeners

to fulfill your in-plant requirements for a continuous supply of soft, clean, filtered water. Flow rates to 52 gpm. Variable capacity and regeneration time selection.

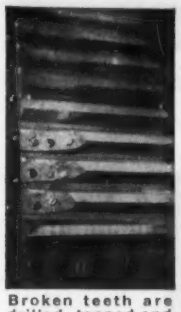


Myers

Available Immediately For Prompt Shipment.
For detailed specifications, write:

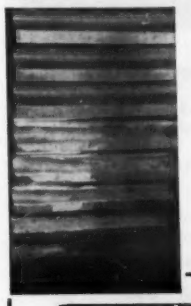
The F. E. Myers & Bro. Co.
8902 ORANGE STREET, ASHLAND, OHIO

For more details circle NED-336 B9 on enclosed inquiry slip



Broken teeth are drilled, tapped and studded to improve foundation.

. . . Built up with Ni-Rod "55" Electrode, and ground to size.



Ni-Rod "55" repairs 13-ft cast iron gear
...saves tough replacement job

This repair saves the damaged gear . . . plus costs of removing it from a pulverizing mill, opening a heavy concrete wall, down time at $8000 per day.

The whole job took 5 hours; the whole cost was $230. Today, after more than 2 years' service, there's no sign of failure.

Ni-Rod "55"* Electrode helps you make durable repairs in cast irons...solid production welds, too. Rarely do you need preheat to get sound, strong, machinable joints. See how other shops make low-cost repairs—ask Inco for booklet "Repair Cast Iron Quickly and Easily."

*Registered trademark

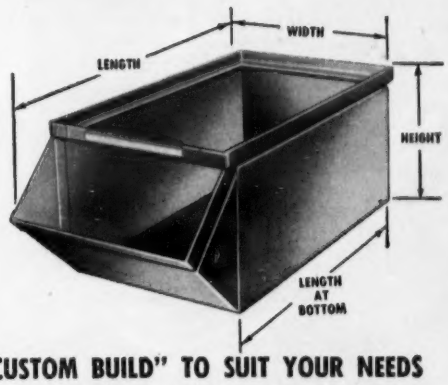
The International Nickel Company, Inc.
69 Wall Street INCO New York 5, N.Y.

Inco Welding Products

- electrodes
- wires
- fluxes

For more details circle NED-337 B9 on enclosed inquiry slip

MODERNIZE YOUR STOCKROOM AS YOU REBUILD YOUR INVENTORY!



"CUSTOM BUILD" TO SUIT YOUR NEEDS WITH MULTI-PURPOSE STACKBINS

In processing . . .
portable Stackbins carry common parts and supplies to points of usage without time-wasting transferal to other containers.

In storage . . .
Stackbins stack securely to any desired height, with or without Stackracks. Floor space requirements reduced—stock capacity increased.

In assembly . . .
Stackbin flexibility permits adapting assembly station to production requirements.

Available in sizes to suit your requirements

Bin No.	Width	Length	Bottom Length	Height	Weight (lbs.)
00	3½"	6"	4"	3¾"	1¼
0	4½"	8"	6"	4½"	1¾
1	5½"	12"	10"	4½"	3
2	7½"	15½"	12¼"	6"	5½
3	9"	18¾"	14¾"	7½"	9
4	12"	20½"	15¾"	9½"	14
5	15"	24"	18¼"	11"	20½
6	18"	30"	24"	12"	29

COMPARE THE PRODUCT
COMPARE THE PRICE

STACKBINS ARE MADE of heavy gauge steel, all-welded construction with positive stacking rim. Full flow hopper front and smooth interior make contents always visible—always accessible.

All Stackbin products are sold direct. Write for more information today!

STACKBIN CORP. 1081 Main St., Pawtucket, R. I.
Mfd. & sold exclusively in Canada by: Wickwire-Stackbin, Ltd., Perth

STACKBIN SYSTEM
"Stacked and Still Accessible"

For more details circle NED-338 B9 on enclosed inquiry slip

runs up to 8,000 counts per minute!

Here's a new Veeder-Root high-speed predetermining counter *with instant resetting*. Easily preset to the required number of pieces or performance-units, the counter subtracts to zero . . . *then resets with a finger-flick back to the original preset number.*

This new counter meets standard U. S. electrical requirements (JIC Codes) . . . and is available with either electrical switch or mechanical stop. Also available *without the predetermining feature*, as a high-speed reset revolution counter. *Write:*

EVERYONE CAN COUNT ON **Veeder-Root** INCORPORATED Hartford 2, Connecticut

▲ For more details circle NED-339 B9 on enclosed inquiry slip ▲

Hoover announces 3L00 extra light bearings

Now, America's quality bearings come in compact proportions designed to save space! Hoover's new 3L00 series extra light ball bearings provide the solution to bearing problems calling for maximum bore size and minimum housing area. They have outer diameter and width dimensions that are substantially smaller than those of standard light, medium or heavy series bearings of equal bore size.

Hoover 3L00 extra light ball bearings are available in a wide range of popular sizes in open, shielded and sealed types, including lubricated-for-life bearings with Hoover-developed contact seals of TEFLON. For complete information, return the coupon below.

Hoover Quality is Outstanding!

Micro-Velvet balls are made of selected high-carbon chrome alloy steel, uniformly hardened, and finished so perfectly that roundness and diameter are accurate within millionths of an inch.

Hoover Honed raceways, on both inner and outer rings, are super-smooth, superbly finished. Precision matching of ball complements and raceways assures hushed quietness, long life, superior Hoover performance.

Micro-Velvet and *Hoover Honed* are Hoover trademarks
TEFLON is a DuPont trademark for its fluorocarbon resins

hoover BALL AND BEARING COMPANY
5400 South State Road, Ann Arbor, Michigan
Los Angeles Sales Office and Warehouse: 2020 South Figueroa, Los Angeles 7, California

Hoover Ball and Bearing Company, Ann Arbor, Michigan
Please send new Bulletin 108, which describes Hoover 3L00 extra light bearings.
Name_____
Title_____
Company_____
Address_____
City_____ Zone____ State_____

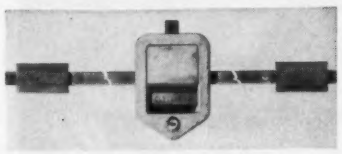
▲ For more details circle NED-340 B9 on enclosed inquiry slip ▲

FINGER FEEDING PADS
nylon won't scratch soft materials

Soft materials such as brass, aluminum, and plastics, or centerless-ground or polished stock are protected from scratching by nylon feeding finger pads which feed stock to hand and automatic screw machines. Pads are available in round, square, and hexagonal types. They are designed for snug, no-slip fit on standard master feeding fingers. Made by **Brown & Sharpe Mfg. Co.**, Industrial Products Div., Providence 1, R. I.

▲ For more details circle NED-341 B9 on enclosed inquiry slip ▲

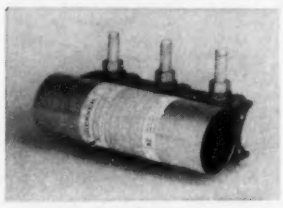
MULTIPOINT FLUSH LOCKS
for light doors and compartments



Locking and non-locking types of multipoint flush locks are offered with two and three-point locking for use on light doors, compartments, and other types of closures. Only one unit is required for right or left-hand installations. Locks have standard 24-in. slotted connecting bars which can be assembled to drop forged end bolts to actuate a slide plate and hardened steel pins. Made by **H. K. Porter Co.**, Forge & Fittings Div., Cleveland Forge Works, 3270 E. 79th St., Cleveland, Ohio.

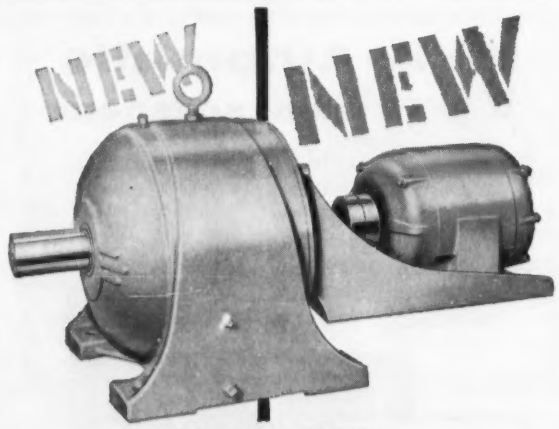
▲ For more details circle NED-342 B9 on enclosed inquiry slip ▲

PIPE REPAIR CLAMP
can also be used as coupling



Breaks or holes in asbestos-cement or cast iron water lines can be repaired with the 2 and 3-in. Dresser 360 repair clamp. Made of stainless steel with Grade A malleable iron lugs, it is used by removing the bolts from the lugs, springing the clamp around the pipe, and tightening the nuts on the reinserted bolts. Clamp can also be used as a coupling for joining odd lengths of plain-end cast iron pipe. Bolt pull is transmitted into pressure to assure a leak-proof seal without pivoting or bolt bending. Lugs permit adjustability to compensate for variations in pipe diameters. Cemented-in-place Grade 33 gaskets conform to pipe and cushion it from shock and movement. Made by **Dresser Industries, Inc.**, Dresser Mfg. Div., 41 Fisher Ave., Bradford, Pa.

▲ For more details circle NED-343 B9 on enclosed inquiry slip ▲



Louis Allis
LINE-A-SPEDE

Louis Allis LINE-A-SPEDE is a motorized gear reducer built to accommodate foot-mounted motors of any speed or enclosure.

LINE-A-SPEDE is available in ratings from 1 to 75 hp., double and triple reductions with ratios from 5.06 to 230:1, in both foot- and vertical flange-mounted styles. Write to the Louis Allis Company, 436 East Stewart Street, Milwaukee 1, Wisconsin.

LOUIS ALLIS

GM-114

▲ For more details circle NED-344 B9 on enclosed inquiry slip ▲

NEW
EXPLOSION PROOF
PRESSURE CONTROL

APPROX. WEIGHT 8 LBS.
Series DAH Pressure Control

EXTERNAL ADJUSTMENTS
VISIBLE CALIBRATED DIAL
VISIBLE SETTINGS
HERMETICALLY SEALED MERCURY SWITCH
3/2" EXTERNAL PRESSURE CONNECTION
1/4" INTERNAL PRESSURE CONNECTION
SURFACE OR PANEL MOUNTING
AVAILABLE WITH BREATHER OR DRAIN
FINISH—NATURAL ALUMINUM

Write for Bulletin DAH-2

THE MERCOID CORPORATION
4209 Belmont Ave., Chicago 41, Ill.

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READ any surface temperature with Alnor® PYROCON

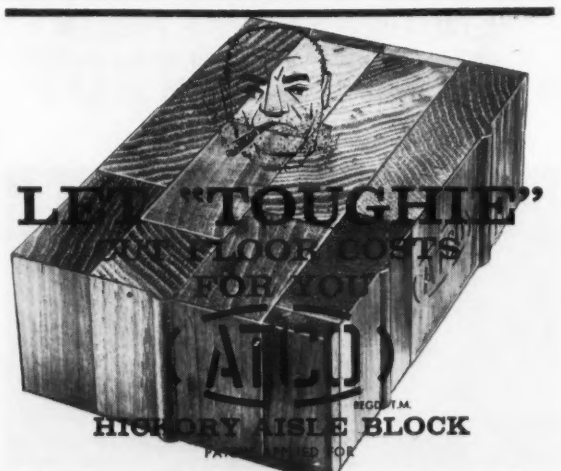
Equipment...material...metallic or non-metallic...flat, curved... revolving or stationary—you can read every surface temperature accurately in less than 3 seconds!

Compact, complete in precision design, this rugged instrument assures highest standards of speed, accuracy and dependability.

Alnor Portable Pyrocons come in scale ranges to 2000° F., with thermocouples for every application. You'll find full details on the Pyrocon exactly suited to your operations in Bulletin 4257. Send for your copy now. Write: Illinois Testing Laboratories, Inc., Room 529, 420 N. LaSalle St., Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

▲ For more details circle NED-346 B9 on enclosed inquiry slip ▲



- Last from four to five times longer than blocks of softer woods.
- Eliminates frequent replacement labor costs.
- Less production inconvenience due to longer life.
- Made to your exact size specifications.
- Made exclusively from hickory-pecan, toughest of all domestic woods.
- Laminated under hydraulic pressure.

Write for full information
ANDERSON-TULLY CO.
"70 Years of Success!"
1240 NORTH SECOND STREET • MEMPHIS, TENNESSEE

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SPITFIRE Grinding Discs

GREATER SAFETY MARGIN! Revolutionary new Aluminum Oxide Discs feature built-in barrier protection plus fully reinforced edges to eliminate limpness and excessive grit loss. Spitfire Discs provide 25% greater safety margin on "snagging" and "hang up" operations.

FASTER, COOLER CUTTING! Sharp, uniform cutting action makes full use of disc surface . . . speeds up grinding and sanding even under toughest conditions. Cooler running to add extra life, longer production performance.

A TYPE AND SIZE FOR EVERY JOB! Available in "Special," "Standard" and "Heavy Duty" discs for everything from light gauge metal sanding and polishing to high speed finishing operations. Grit sizes 16 through 180. Disc diameters include 6", 7", 8" and 9⅛" with ½" and ⅞" arbor holes.

Write for "Spitfire" folder!

JEWEL BRAND

COATED ABRASIVES

Belts • Rolls • Sheets • Discs • Specialties

ABRASIVE PRODUCTS, INC.
South Braintree 85, Massachusetts

For more details circle **NED-348 B9** on enclosed inquiry slip

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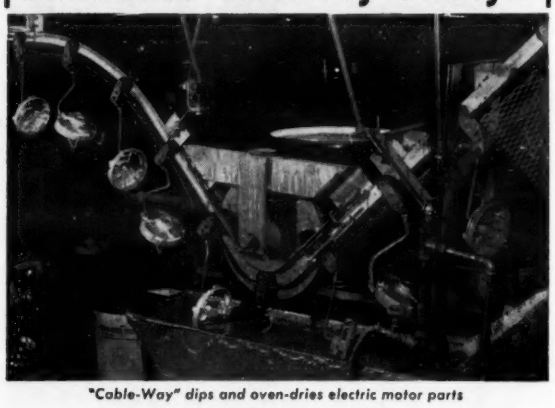
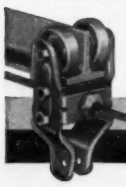
SPACE-SAVING 45° or 60° VERTICAL DIPS FOR PAINTING, DEGREASING, PLATING

AMERICAN "Cable-Way" Conveyor



"Cable-Way" dips and oven-dries electric motor parts

Compact quick dips are just one of many reasons why "Cable-Way" Conveyors are money-savers for metal finishing. All-bolted construction of track and hanger rods makes installation or rearrangement easy. A 180° conveyor loop can operate within a 20"-wide ceiling area (15¼" dia. sprocket). Trolleys available in 80, 160, and 250 lb. capacities. Nylon wheels for corrosive conditions. Low-cost, easy to maintain. Write for Catalog CDA.



CONVEYOR DIVISION
THE AMERICAN MONORAIL CO.
Fourth & Franklin Streets • Tipp City 7, Ohio

For more details circle **NED-349 B9** on enclosed inquiry slip

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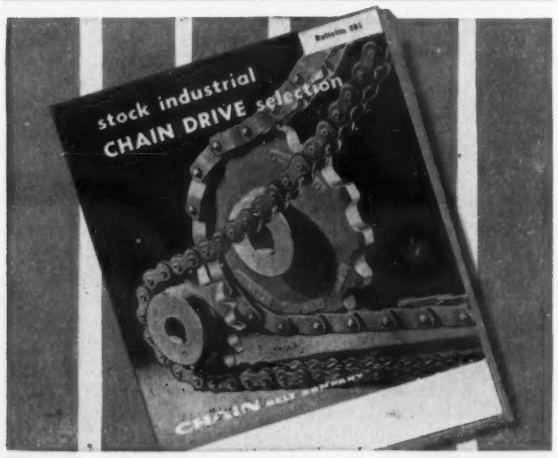

You can select stock chain drives!

You can translate *your* horsepower requirements...*your* shaft sizes and speeds...*your* load classification...*your* space limitations...into the right size and type of drive chain and sprockets with CHAIN Belt's new Bulletin 581. It's simple and fast. You select from easy-to-read tables the exact chain needed for *most economical* service.

Send for Bulletin 581 today. CHAIN Belt Company, 4686 West Greenfield Avenue, Milwaukee 1, Wisconsin.

CHAIN BELT

For more details circle **NED-350 B9** on enclosed inquiry slip

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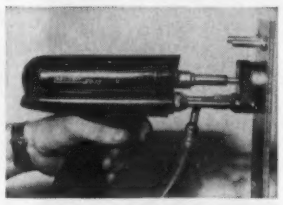
ALUMINUM STUDS
welded to aluminum plate by gun



Aluminum fastener studs up to ½-in. diameter can be welded to aluminum plate by the stud welding technique. Welds are made as rapidly and easily as steel stud welds, and the welds reportedly are as strong or stronger than the studs themselves. Studs are end-welded with the NS-10A stud welding gun equipped with an adaptor foot. An inert gas, either argon or helium, flows through the foot to surround the weld area at the time of the weld. Studs of 4043 aluminum alloy are available in lengths up to 3 in. and diameters from 3/16 to ½ in. Tensile strength is 15,000 to 25,000 psi. Minimum weldable plate thickness is ⅛ in. Made by **Gregory Industries, Inc.**, Nelson Stud Welding Div., 2717 Toledo Ave., Lorain, Ohio.

For more details circle **NED-351 B9** on enclosed inquiry slip

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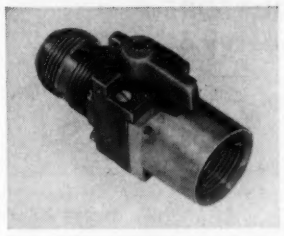
BALL VALVES
actuated by several means



Line of Koehler/Dayton ball valves can be used with standard fuels and oils, high energy fuels, oxidizers, coolants, and cryogens. Light in weight and small in size, they can be actuated by manual, mechanical, or electrical means when functioning as drain, selector, fill, and flushing valves. Made by **Koehler Aircraft Products Co.**, 409 Leo St., Dayton 4, Ohio.

For more details circle **NED-352 B9** on enclosed inquiry slip

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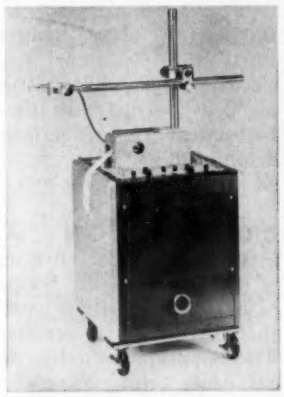
WIRE TENSION ANALYZER
checks variations during coil winding



Assurance that wire coils are being produced uniformly at high winding speeds is assured by recording both the static tension level and dynamic tension variations on the Model BL-825 wire tension analyzer. Proper control of high winding speeds minmizes overstretching of wire, thus eliminating coil overheating, variations in resistance, and insulation breakdown. Analyzer can be used with all types of wire. Made by **Clevite Corp.**, Brush Instruments Div., 37th & Perkins Avenue, Cleveland 14, Ohio.

For more details circle **NED-353 B9** on enclosed inquiry slip

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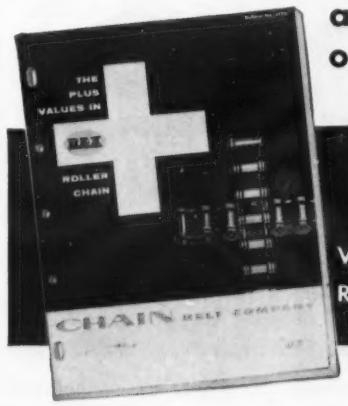
GET BULLETIN 5725
and find out about...



THE PLUS VALUES IN REX ROLLER CHAIN

Yes, find out about the special design and manufacturing techniques that make an important difference...*put a plus value* in Rex Roller Chain. Learn about the rigid quality control that gives you a better chain...consistently.

Bulletin 5725 explains why Rex Roller Chains last longer ... why Rex Roller Chains have greater resistance to fatigue and failure. Write today for your copy of Bulletin 5725, "The Plus Values in Rex Roller Chain." CHAIN Belt Company, 4686 West Greenfield Avenue, Milwaukee 1, Wisconsin.

CHAIN BELT

For more details circle **NED-354 B9** on enclosed inquiry slip

---

A modern truck for modern plants

The HydroLectric
with most modern features

- Two Drive Wheels instead of one
- Braking with handle in any position
- Four Wheel Stability instead of three
- Alloy Gear Transmission instead of chains
- 100% more Steering Ease —Greater Maneuverability
- 50% less Maintenance —Easy Accessibility
- Greater Tire Capacity —Equivalent Load Ratings

• *Write for Bulletin KP*

A TRUCK FOR EVERY PURPOSE AND MATERIAL

For more details circle **NED-355 B9** on enclosed inquiry slip

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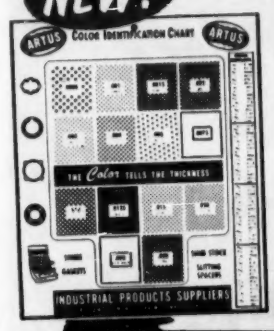
NEW!



A 'MUST' WHEREVER SHIMS ARE USED

ARTUS

PLASTIC SHIMS

THE COLOR TELLS THE THICKNESS

FREE
Write for this handy COLOR CHART, today!

Artus Plastic Shims are real time savers in production and maintenance. They're used by many of America's best known industrial corporations because they're more efficient, more convenient, always available.

Custom shapes to your specifications.

Write for Samples and Literature or Mail Blueprint for Test Sample.

INDUSTRIAL PRODUCTS SUPPLIERS
201 South Dean St., Englewood, New Jersey
LOwell 7-0900

For more details circle **NED-356 B9** on enclosed inquiry slip

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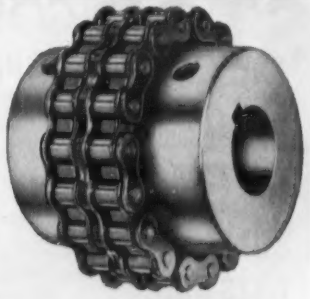
NEW



REX

Roller Chain Flexible Coupling

Because of its design, you install it in a jiffy. Just line up the sprockets, wrap around the double-strand all-steel chain, insert the single pin and cotter, and you're ready to throw the switch.

Because it's all-steel, you get long life at low cost—and the strength to absorb shock and vibration.

Send today for your copy of the new catalog on Rex Roller Chain Flexible Couplings. It tells how to pick the exact coupling for your job and conditions of service. CHAIN Belt Company, 4686 West Greenfield Avenue, Milwaukee 1, Wisconsin.

In Canada, write Chain Belt (Canada) Ltd., 1181 Sheppard Ave. East, Toronto

CHAIN BELT

For more details circle **NED-357 B9** on enclosed inquiry slip

Steam Line Problems?

SOLVE THEM WITH
Aeroquip Flexible Hose of Teflon
and Reusable "super gem" Fittings*

Enthusiastic users say that Aeroquip 2802 Hose of Teflon and Reusable "super gem" Fittings are unmatched for steam line applications. They report long service even under constant flexing at 200 psi. (388°F.) of steam.

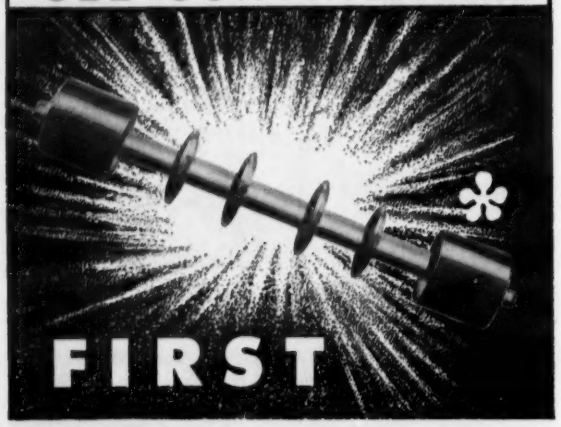
Aeroquip 2802 Hose of Teflon is chemically inert, has excellent lubricity, withstands 500°F. heat, making it ideal for chemicals, hot air, oils and solvents, too. Write for IEB-26B or call the Aeroquip Distributor near you for details.

*U.S. Patent Nos. 2,833,567 and 2,731,279.
"super gem" is an Aeroquip Trademark
Teflon is DuPont's trade name for its tetrafluoroethylene resin

Aeroquip
AEROQUIP CORPORATION, JACKSON, MICHIGAN
INDUSTRIAL DIVISION, VAN WERT, OHIO • WESTERN DIVISION, BURBANK, CALIFORNIA
AEROQUIP (CANADA) LTD., TORONTO 19, ONTARIO

For more details circle NED-358 B9 on enclosed inquiry slip

SEE CONTINENTAL



FIRST FOR *Return Idlers*

Rubber Disc Return Idlers are ideal for belt conveyors handling damp, sticky, abrasive, or clinging materials.

Wide End Roll Rubber Disc Return Idlers support heavy belts, and assist belt training.

See Continental FIRST for ALL your conveying needs!

CGC
INDUSTRIAL DIVISION
Continental Gin Company
BIRMINGHAM, ALABAMA
ATLANTA • DALLAS • KNOXVILLE • MEMPHIS • MOBILE • NEW YORK 17

For more details circle NED-359 B9 on enclosed inquiry slip

STOP COSTLY LEAKS in TANKS, PIPES, JOINTS

FREE BULLETIN TELLS HOW
Ask for Your Copy

Listed by Underwriters' Laboratories, Inc.

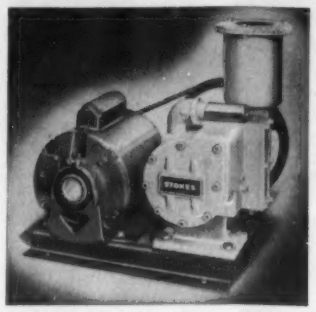
with GASOILA, the "*Old Reliable*" Sealing and Coating Compound

Absolutely insoluble in petroleum products, refrigerants and other commercial solvents. GASOILA never dries or hardens. GASOILA is permanently elastic...withstands temperature changes and severe vibration. GASOILA works equally well on threaded or flanged joints and on all connections, with or without cork, fiber or metal gaskets.

THE FEDERAL PROCESS COMPANY
1120-A CITIZENS BLDG.—CLEVELAND 14, OHIO

For more details circle NED-360 B9 on enclosed inquiry slip

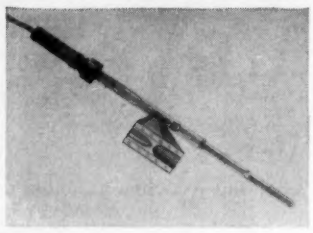
HIGH VACUUM PUMPS in 2.3 and 3.7 cfm displacements



Refrigeration equipment manufacturing, environmental chamber evacuation, and small freeze-drying and vacuum-impregnation installations are typical applications for Series SC-2 and SC-3 compound vacuum pumps. Units are respectively rated at 2.3 and 3.7 cfm displacement. They feature vibrationless, vapor-free operation and automatic lubrication. Motor and pump are mounted on a common base-plate to make a compact unit weighing only 60 lb. The SC-2 and SC-3 pumps are powered by 1/4 and 1/3-hp, 110-v motors and run at 500 and 800 rpm, respectively. Ultimate blank-off pressure is 0.1 micron. Made by **F. J. Stokes Corp.**, Vacuum Equipment Div., 5500 Tabor Rd., Philadelphia 20, Pa.

For more details circle NED-361 B9 on enclosed inquiry slip

TEMPERATURE REGULATORS for air or liquid service



Precise air or liquid temperature control with this Quick-Set Thermo-Regulator is made easy by the control setting which can be varied over a wide range. Once set within 10° F of control temperature, vernier-like adjustments up to several degrees are quickly made by turning 1-in. knob at top of instrument. Sensitivity is within ±0.005° C. Enclosed needle-like tungsten contact is raised and lowered in the mercury capillary by magnetic action. Overall length of regulator is 14 in., and the largest glass diameter is 9/16 in. Temperature range is from −35 to 400° F. The H-B electronic relay rated 30 amp at 115 v ac is recommended for use with the regulator. Made by **H-B Instrument Co.**, American & Bristol Streets, Philadelphia 40, Pa.

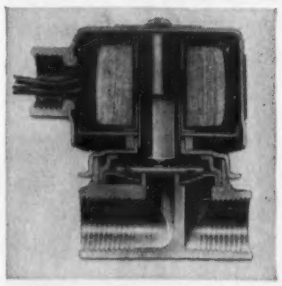
For more details circle NED-362 B9 on enclosed inquiry slip

CORRECTION

A typographical error appeared in the description of the improved Jiffy floor repair compound on page 1 of our January 1959 issue. It was incorrectly stated that "A tamper is supplied free with a 5-gal drum." The tamper is actually available free only with a 55-gal drum. Jiffy Floor can be used to repair cracks and shallow holes in floors without interference to traffic or production. It is made by **Monroe Co.**, 10708 Quebec Ave., Cleveland 6, Ohio.

For more details circle NED-363 B9 on enclosed inquiry slip

HUNDREDS OF USES!



JE
INDUSTRIAL SOLENOID VALVES

Uniquely suitable for industrial flow control of water, air, low pressure steam, light oils, brines, industrial and L.P. gases, etc.

These remarkable new valves have been successfully used to control air and fluid flow in connection with such varied products as

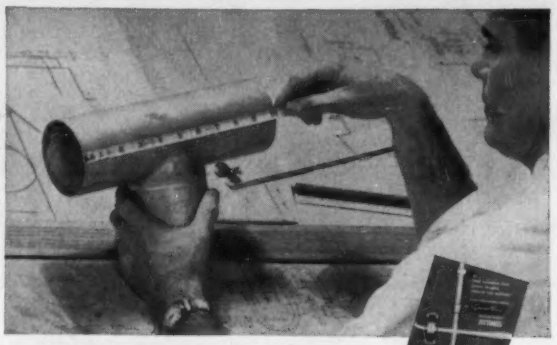
COMMERCIAL GARBAGE DISPOSALS, DISHWASHERS, AUTOMATIC LAWN SPRINKLERS, SPRAY PONDS, WATER SOFTENERS, AIR COMPRESSORS, HOT WATER HEATING SYSTEMS, SPRAY LUBRICATION SYSTEMS, PNEUMATIC TOOLS, etc.

5/16" to 1½" Port Sizes ¼" to 1½" N.P.T. Connections.

To see how "J-E" industrial solenoid valves can solve your flow problems—write for bulletin J-57.

JACKES-EVANS MANUFACTURING CO.
4427 Geraldine Ave. St. Louis 15, Mo.

For more details circle NED-364 B9 on enclosed inquiry slip



MEASURE YOUR SAVINGS ...WITH *Speedline* FITTINGS

Write for FREE Speedline Catalog TODAY.

This 3" Speedline Tee gives you 3¼" "*more length*"—at no extra cost! Longer length feature of *all* Speedline fittings also . . .

- Lets You Select *Any* Type Joint to Meet Assembly Needs
- Provides More Clearance for Welding and Aligning
- Speeds Installation of the Most Complex System

GET THESE COST SAVING ADVANTAGES OF SPEEDLINE FITTINGS WITH TANGENTIAL FEATURE AT YOUR PLANT . . . DESIGNED FOR USE WITH *ECONOMICAL* LIGHT WALL STAINLESS STEEL PIPE.

903

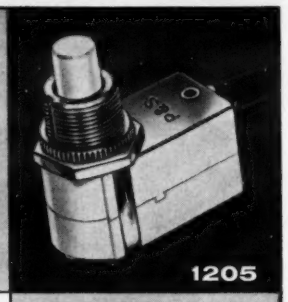
Distributors are located in principal cities from coast to coast

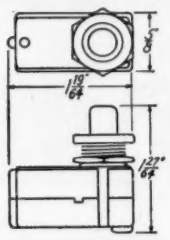
Speedline® STAINLESS STEEL FITTINGS manufactured by

HORACE T. POTTS CO. 532 E. Erie Ave., Phila. 34, Pa.

For more details circle NED-365 B9 on enclosed inquiry slip

New





Push Button Switches

MOMENTARY CONTACT
6A 125 3A 250V 1/6 HP 125V
For AC-DC Operation
SINGLE POLE
- Normally Open
- Normally Closed

TWO CIRCUIT OR THREE WAY

AVAILABLE WITH
- Wire Leads
- Solder Lugs
- Binding Screws
- Plug-In Terminals on Special Order

The moment you try a 1205 you'll know why it tested so successfully at more than a million cycles. It's precision-engineered, amazingly sensitive, compact and rugged. Just 14 ounces of pressure actuates the plunger. Over-center snap action in a new type mechanism insures instant contact and release—positive make and break. Action is controlled to ±.030. Features long-life silver alloy contacts and dust-tight plastic housing. Mounts and installs easily. Ideal for limit switch application.

Electrically operated products are only as efficient as their controls. If you have a problem involving wiring devices for your product, write us about it. We have been producing electrical products for over sixty years and our experience is at your service.

P&S® *Mark of Quality*

Write Dept. IEN-24 for complete catalog

P&S PASS & SEYMOUR, INC.
SYRACUSE 9, NEW YORK
60 E. 42nd St., New York 17, N.Y. 1440 N. Pulaski Rd., Chicago 51, Ill.
In Canada: Renfrew Electric Limited, Renfrew, Ontario
MAKE THE COMPLETE JOB COMPLETELY P&S

For more details circle NED-366 B9 on enclosed inquiry slip

LYON STEEL LOCKERS

Lyon, the leading manufacturer of steel lockers, offers quality design features which really pay off. All-welded, rigid frame, positive locking action, heavy-duty hinges, streamlined, chrome finger-tip handle (patented). Many types of lockers—single, double, multiple tier, etc., meet every space and capacity requirement.

Write for free 84-page Lyon Steel Equipment Catalog.

LYON METAL PRODUCTS, INC.
122 Monroe Avenue, Aurora, Illinois
Dealers and Branches in All Principal Cities

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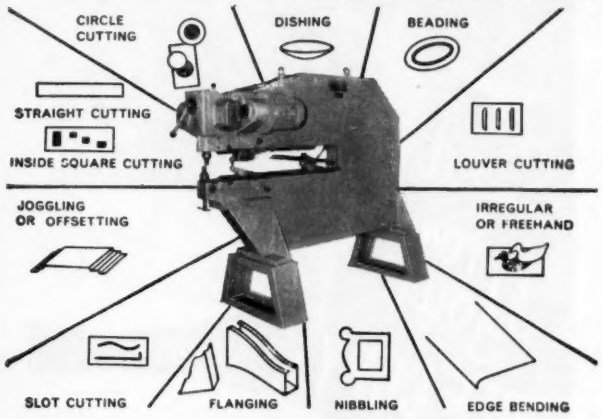
A Complete Sheet Metal Shop in One Machine

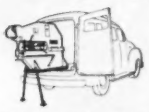
PULLMAX

DOES ALL OF THESE OPERATIONS



★CUTS MILD STEEL UP TO 11/32"

The one machine that's sure to save time, labor and material when you work sheet or plate. Eliminates expensive die costs—easy to operate. 7 sizes to choose from.



Write for a demonstration right in your plant.

16 m.m. Sound Film available

Write for free catalog on Metalworking Ideas.

AMERICAN PULLMAX CO., INC.
2457 N. Sheffield Ave., Chicago 14, Illinois
See us in Booth 535, Western Metal Show, Los Angeles, Mar. "16-20."

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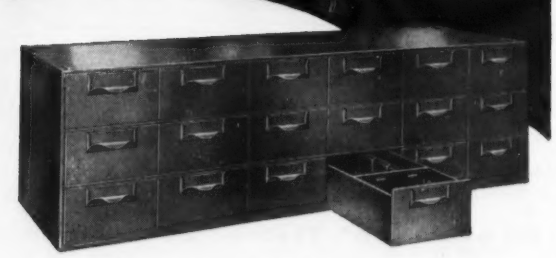
LYON DRAWER CASE UNITS



These heavy-duty steel drawer case units provide your most convenient way to store small parts. Built to take a lifetime of hard usage. Dividers instantly adjustable every inch—permit quick rearrangement. Available in 12, 18 and 24 drawer units. Lyon green baked-on enamel finish.

Write for free 84-page Lyon Steel Equipment Catalog.

LYON METAL PRODUCTS, INC.
122 Monroe Avenue, Aurora, Illinois
Dealers and Branches in All Principal Cities

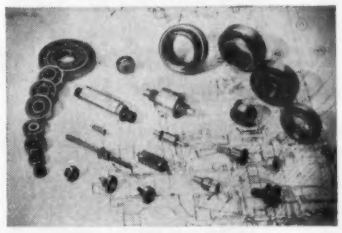
▲ For more details circle **NED-369 B9** on enclosed inquiry slip ▲

LIQUIDPROOF GLOVE
snug fit affords dexterity

Vinyl coating over a soft knit liner is construction of the Vylaca liquidproof industrial glove. It fits the hand in a natural, relaxed position and, when the hand is extended, stretches to a snug fit to provide a keen sense of touch and permit handling with dexterity. It offers a nonslip grip when wet and is solvent and mineral acid resistant. Lining is sanitized to inhibit odor-causing bacteria. Made by **Edmont Mfg. Co.**, Walnut Street, Coshocton, Ohio.

▲ For more details circle **NED-370 B9** on enclosed inquiry slip ▲

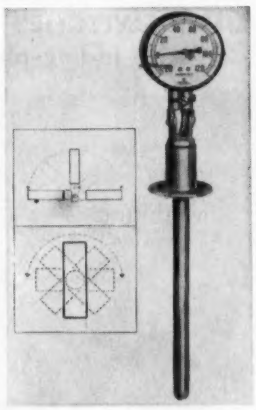
BALL BEARINGS
in single and double row types



Compact, low cost, controlled tolerance Vers - O - Line ball bearings have a specific friction factor of 0.0015. Bearings are available in single and double row types, some of which are standard and available from stock. Others are designed and produced for specific requirements. They include single row radial and thrust, and double row Versa-Twin types. Made by **Hartford Steel Ball Co.**, 489 New Park Ave., Hartford 6, Conn.

▲ For more details circle **NED-371 B9** on enclosed inquiry slip ▲

DIAL THERMOMETERS
designed for use in ducts

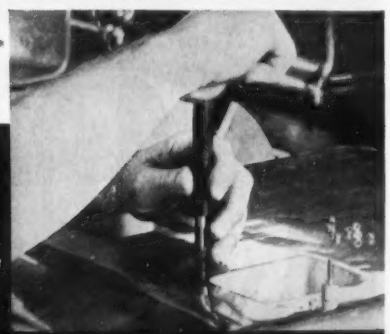


Universal joint allows the large legible dial of these dial thermometers to be swivelled or tilted to any of the positions shown in the drawing. Designed for use in ducts, thermometers have a flange with an extension neck that will clear the duct insulation. A rigid-stem, direct-reading type for location at the point of measurement and a distant-reading type are available. Latter has 6 ft of capillary tubing for use some distance away from point of measurement. The gas-filled, bourdon tube type thermometers are unaffected by ambient temperatures. Ranges are −40 to 120° F with 2-degree divisions; 0 to 160° F with 2-degree divisions; and 0 to 220° F with 5-degree divisions. Dial sizes are 3½ and 4½ in. Made by **Jas. P. Marsh Corp.**, 3502 Howard St., Skokie, Ill.

▲ For more details circle **NED-372 B9** on enclosed inquiry slip ▲

HOW HELI-COIL* INSERTS

CUT THREAD REPAIR AND "DOWNTIME" COSTS—



Permanently Restore Damaged Threads to Original Size—Within Minutes

You simply: Drill out old threads, tap, then wind in the *Heli-Coil* Stainless Steel Insert. It's that fast and easy!

Ask your distributor for the convenient *Heli-Coil* SHOP-PACK with inserts and tools in the size you need. Shop-Packs are furnished in all sizes from 6-32 to 1½-6 NC, 6-40 to ½-20 NF, and 14 and 18 MM spark plug sizes. Ask your distributor for the *Heli-Coil* Shop-Pack today.

Note: Larger size inserts and tools in the fine series and pipe thread sizes may be ordered separately.

Save repair, labor and downtime costs with Heli-Coil Inserts.
*Reg. U. S. Pat. Off.

HELI-COIL CORPORATION
3402 SHELTER ROCK LANE, DANBURY, CONN.
In Canada: W. R. Watkins Co., Ltd., 41 Kipling Ave., S., Toronto 18, Ont.

▲ For more details circle **NED-373 B9** on enclosed inquiry slip ▲

Compare the resilient strength of Lyon *channel frame construction.* Compare Lyon functional beauty —backs and seats curved to match body contour — round, smooth edges and pinch-proof hinges.

Millions of Lyon chairs are in use, all over the world, providing the utmost in comfort, safety and long life at the lowest possible cost.

Write for free 84-page catalog. Lyon Metal Products, Inc., 122 Monroe Avenue, Aurora, Illinois.

LYON® METAL PRODUCTS, INC.
DEALERS AND BRANCHES IN ALL PRINCIPAL CITIES

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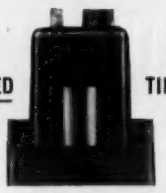
TIMING ACCURACY **AND REPEATABILITY**

AT A MOST **PRACTICAL COST:**

NEW TRANSISTORIZED  **TIME-DELAY RELAY**

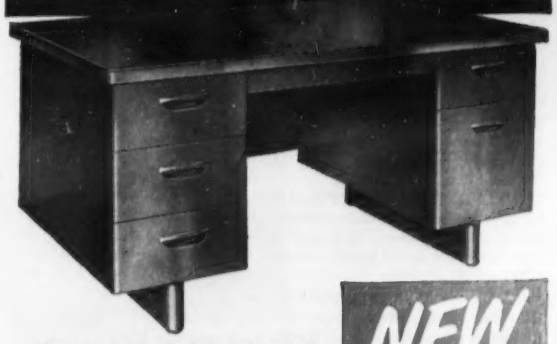
Remarkably low priced for its class, Heinemann's new transistorized time-delay relay gives you a tested repeatability of better than ±5% of set delay, over an adjustable range of 0.5 to 30 seconds. S.P.D.T. switching is extremely fast and clean, and reset is instantaneous. Temperature effect on time delay is negligible; performance is stable.

For more details on the Trans-O-Netic* Relay, send for Bulletin 5300.

HEINEMANN ELECTRIC CO. 106 PLUM ST., TRENTON 2, N. J.
*Trans-O-Netic is a trade name of the Heinemann Electric Co. S.A. 1062

▲ For more details circle **NED-375 B9** on enclosed inquiry slip ▲

LYON OFFICE DESKS

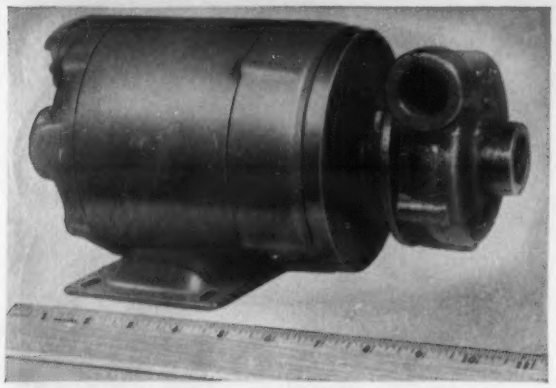


HIGH QUALITY LOW PRICE ***NEW***

An unbeatable value—this Lyon 60" office desk. Welded construction throughout. Skid-type base has adjustable feet. 26" center drawer, interchangeable pedestal drawers. Attractive gray finish. Heavy-duty linoleum top. Nylon gliders on all drawers. Also available, 42" single-pedestal model—60" conference table. *Write for* Free Desk Bulletin No. 170 and 84-page Lyon Steel Equipment Catalog No. 100.

LYON METAL PRODUCTS, INC.
122 Monroe Avenue, Aurora, Illinois
Dealers and Branches in All Principal Cities

▲ For more details circle **NED-376 B9** on enclosed inquiry slip ▲



Goulds Fig. 3604 chemical circulating pump

A small pump with big-pump stamina

Here's a compact pump you can use to save space in chemical equipment. It offers advantages in size, weight, cost, and dependable performance.

Size—10½" x 5½" x 5½", small enough to fit tight locations.

Weight—23 lbs. with motor, easily portable in lab or pilot plant.

Performance—dependable heavy duty service round the clock, round the calendar.

Available from stock in 316 stainless steel for corrosive service. Designed for temperatures to 220° F. and working pressures to 75 p.s.i. Capacities to 16 GPM and heads to 28 ft.

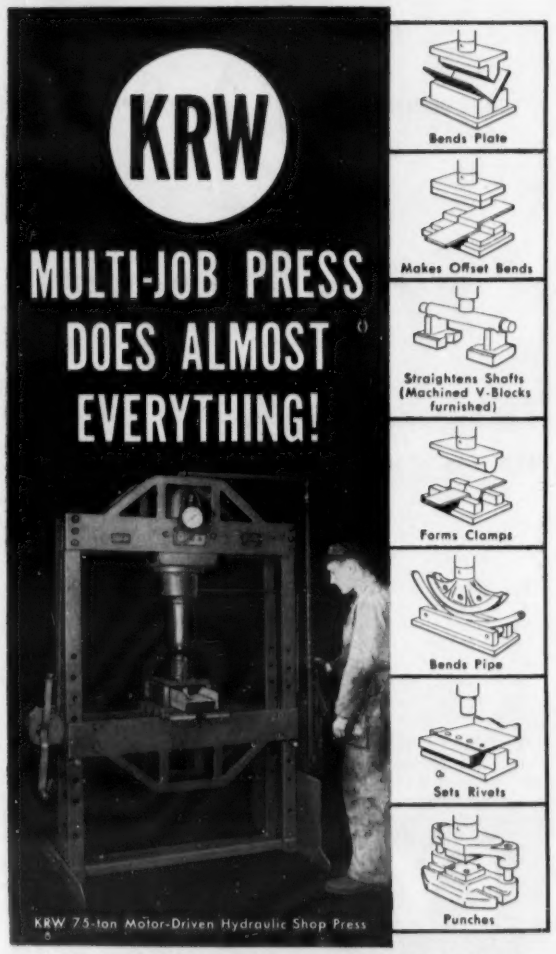
For details, ask your Goulds dealer for Bulletin 624A4, or write

GOULDS PUMPS, Inc., Seneca Falls, N.Y.

▲ For more details circle **NED-378 B9** on enclosed inquiry slip ▲

KRW

MULTI-JOB PRESS DOES ALMOST EVERYTHING!



KRW 75-ton Motor-Driven Hydraulic Shop Press

JACK OF ALL JOBS: This KRW Motor-Driven Hydraulic Shop Press performs all sorts of work that calls for a "squeeze" (up to 75 tons) There's practically no limit to what it can do. The jobs shown above are but a few. Dies can be readily improvised for hundreds of applications.

QUICK CHANGEOVER. It usually takes only a minute or two to switch from one setup to another. As a result, many a KRW shop press that has been purchased for one job is now doing dozens.

SPEED, ACCURACY AND OPERATING EASE: Developed by a maker of numerous types of hydraulic presses, KRW features assure bonus performance: Bed and crown members truss-reinforced. Any pressure up to rated tonnage quickly attained. Convenient lever controls ram. Excellent inching. Spring return of ram. Direct-connected motor drive.

GET THE FULL STORY on this versatile machine as well as other KRW hydraulic shop presses (motor-driven and hand-operated, 25 thru 150 tons). Mail the coupon below.

K. R. WILSON, INC.
1228 MAIN STREET, ARCADE, N. Y.

MAIL illustrated bulletins on KRW Motor-Driven and Hand-Operated Shop Presses to us, without obligation.

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ ZONE _____ STATE _____

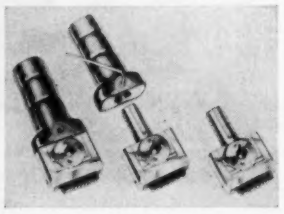
▲ For more details circle **NED-379 B9** on enclosed inquiry slip ▲

NEOPRENE COATED GLOVE
has nonslip wet or dry grip

Positive wet or dry grip is given this Super Neox neoprene work glove by a roughened finish cured into its coating compound. The reinforced neoprene is resistant to solvents as well as cutting and abrasion. Process, which applies a thicker coating on the palm area than on the back, further extends glove life. Glove has good flexibility, a wing thumb and preflexed finger pattern, and is available in fully coated knitwrist and gauntlet and in palm-coated knitwrist styles. Made by **Edmont Mfg. Co.**, Walnut Street, Coshocton, Ohio.

▲ For more details circle **NED-380 B9** on enclosed inquiry slip ▲

MARKING TYPE HOLDER
for hand or machine applications



This 2-in-1 type holder is adaptable for use in hand stamping or in a punch press. A vinyl-coated steel handle is combined with the type holder for hand stamping. Handle prevents slipping and absorbs shock from hammer blows. Holder is removed from handle for punch press marking applications. Individual marking type is held securely and is released by thumb-manipulated lock. Made by **Acme Marking Device Co.**, 1149 E. Pico Blvd., Los Angeles 21, Calif.

▲ For more details circle **NED-381 B9** on enclosed inquiry slip ▲

LIMIT SWITCHES
with in-line plunger actuator

Differing only in the position of the miniature plug-in receptacle, two Micro Switch precision sealed limit switches meet high shock requirements of MIL-S-901B (Navy) specification. Both models have an in-line plunger actuator. Receptacle is in the base of Model 1EN75-R (illustrated) and at the side of Model 1EN76-R. The compact cylindrical housing contains two single-pole double-pole double-throw circuits. All exposed parts are corrosion resistant. Electrical rating is 5 amp, 115 v ac at sea level to 100,000 ft. Over-all length of model shown is 3.090 in. and diameter is 1.0 in. Made by **Minneapolis - Honeywell Regulator Co.**, Micro Switch Div., 205 S. Chicago Ave., Freeport, Ill.

▲ For more details circle **NED-382 B9** on enclosed inquiry slip ▲

dependable

ANCHOR CONVEYOR TROLLEYS

Engineered for longer life and greater economy, ANCHOR Improved Conveyor trolleys are backed by 30 years of conveyor experience.

These trolleys are interchangeable with other leading makes, have protected lubrication fittings, baffle type grease seals, hardened and ground races, and caged ball bearings. Write for Bulletin 56-2.

ANCHOR STEEL & CONVEYOR CO.
6906 KINGSLEY AVE. DEARBORN, MICHIGAN

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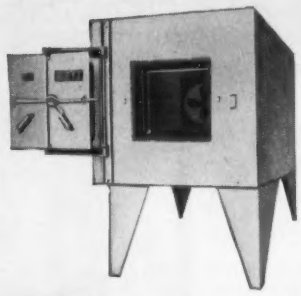
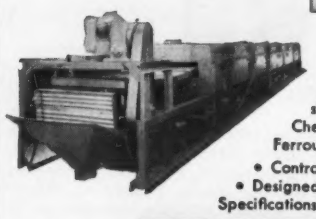
ELECTRIC FURNACES

Uniform, *Controlled* Heat to 2700°



ANNEALING FURNACES specially designed for Glass and Steel applications in production and laboratory. Temperature range up to 1400°F.



CONVEYOR FURNACES for Glass Annealing, Baking Resistors, Ceramic Molding, Chemical Drying, Annealing Ferrous and Non-Ferrous Metals.

- Controlled Heat up to 1850°F.!
- Designed and Built to Your Specifications!

WRITE FOR BULLETIN 75-TC.

TRENT INC.
Electrically Heated Industrial Equipment
249 LEVERINGTON AVE., PHILADELPHIA 27, PA.
In Canada Supreme Power Supplies Limited, Toronto 14

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Send for Your FREE COPY

Money saving ideas on Fabricated Wire Cloth Parts. Large or small wire cloth inserts or covers in all metals and meshes to your specifications. Engineering assistance on design problems, especially on assembly details.

NEWARK WIRE CLOTH COMPANY
351 VERONA AVENUE • NEWARK 4, NEW JERSEY

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MULTI-ZONE **PLATECOIL®**

An exclusive* Tranter advancement in heat transfer technology

Greater pressure containment (operating pressures up to 250 lbs.) has been achieved with exclusive TRANTER DURAWELD construction and mill-controlled mild TRANSTEEL. FULL-FLO action with protection against condensate trapping plus the time-proven PLATECOIL advantages over pipe coils improve performance and cut cost.

*Patents Applied For

WRITE FOR NEW BULLETIN P57.

PLATECOIL® DIVISION
TRANTER MANUFACTURING, INC.
LANSING 9, MICHIGAN

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Quality cans
EAGLE SAFETY CANS

The approved *safe* way to handle flammable liquids. • Listed by Underwriters Laboratories • Approved by Factory Mutual • Uncommonly rugged for hard use • 'The Complete Line'

STYLE I STORAGE CAN

1 qt., 2 qt., 1 gal. sizes with trigger-grip handle . . . 2½ gal., 5 gal. sizes with free-swing handle . . . valve operated by handle gives positive pouring control . . . no waste, no splash, no spill . . . strong quality construction.

STYLE II FILLER-DISPENSER CAN

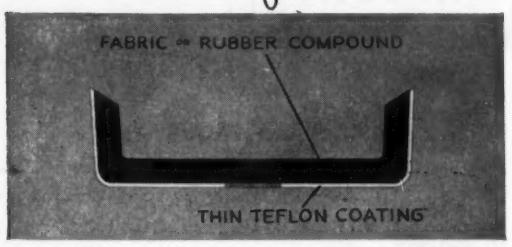
2½ gal., 5 gal. sizes with free-swing handle . . . flexible spout for easy pouring . . . body and breast each seamless drawn from heavy 24-gauge steel . . . steel hoop reinforces bottom . . . fire screens in pour spout and filler opening for double fire protection.

ORDER FROM YOUR SUPPLIER
Write for free catalog showing Complete Eagle Line

EAGLE MANUFACTURING COMPANY
Wellsburg, West Virginia
Serving Industry Since 1894

▲ For more details circle NED-387 B9 on enclosed inquiry slip ▲

NEW GARLOCK Teflon*-COATED CUPS



Cutaway shows how TEFLON *coating is applied to outer surface of molded cup by special Garlock process. Coating becomes integral part of outer surface.*

This exclusive Garlock development will substantially improve the operation of your hydraulic or pneumatic equipment.

TEFLON-coated cups reduce the breakaway torque required to operate cylinders; reduce running friction; will not stick to cylinder walls even after long periods of idleness. Completely eliminate "squealing." All this, of course, results in longer life, less downtime.

TEFLON, with its low coefficient of friction and anti-sticking characteristics, has for many years resisted the efforts of manufacturers to use it as a coating. The very anti-sticking qualities that make it desirable, also made it difficult to work with. Now Garlock has perfected a technique for coating molded cups with a thin layer of TEFLON. This coating becomes an integral part of the cup.

Most important, of course, TEFLON-coated cups are low in cost, only slightly higher than ordinary cups. TEFLON-coated O-Rings and CHEVRON† Packings also available. Write for Folder 145.

THE GARLOCK PACKING COMPANY, Palmyra, N. Y.
For Prompt Service, contact one of our 30 sales offices and warehouses throughout the U.S. and Canada.

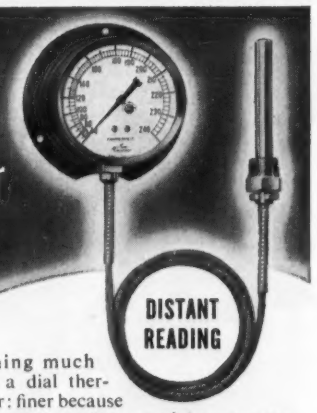
*DuPont Trademark
†Garlock Trademark

GARLOCK

Packings, Gaskets, Oil Seals, Mechanical Seals, Molded and Extruded Rubber, Plastic Products.

▲ For more details circle NED-388 B9 on enclosed inquiry slip ▲

The dial thermometer at its best



Something much finer in a dial thermometer: finer because it is the bourdon tube type of thermometer at its best . . . embodies the greater precision and lasting accuracy of the Marsh Pressure Gauge.

Both vapor tension and gas-filled types are available in either distant reading or rigid stem types. In the broad Marsh line you have a complete selection of temperature ranges, case sizes, styles, and finishes.

Ask for the Thermometer Catalog

MARSH

MARSH INSTRUMENT CO. Sales Affiliate of Jos. P. Marsh Corp.
Dept. 26, Skokie, Ill.
Marsh Instrument & Valve Co., (Canada) Ltd.
8407 103rd St., Edmonton, Alberta, Canada
Houston Branch Plant, 1121 Rothwell St.
Sect. 15, Houston, Texas

▲ For more details circle NED-389 B9 on enclosed inquiry slip ▲

PORTABLE PNEUMATIC GRINDERS with speeds from 3100 to 60,000 rpm

Both lightweight horizontal grinders and high-speed die grinders are included in line of portable pneumatic grinders. Horizontal units adapt to grinding, buffing, and wire wheel work and are available in speeds from 3100 to 12,000 rpm. Wheel diameters from 3 to 8 in. are available. Die grinders, designed for filing, grinding, cutting, and polishing operations, are offered in two sizes with rated speeds of either 40,000 or 60,000 rpm. They have three-bladed air motors, air-cooled precision bearings, and silenced exhaust for quiet operation. Made by **Thomas C. Wilson, Inc.**, 21-11 44th Ave., Long Island City 1, N. Y.

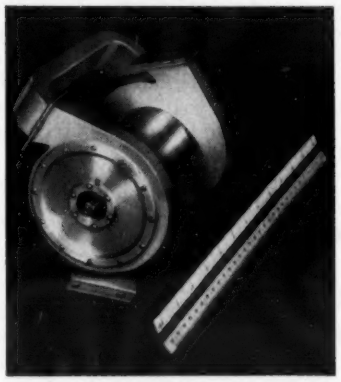
▲ For more details circle NED-390 B9 on enclosed inquiry slip ▲

PHOTOCOPY UNITS exposes and processes in 11 sec

An 11-in. long document is exposed in 3 sec and processed in 8 sec by the Transcopy Star and Mercury photocopy units. The Star, shown in photo, produces finished copies of originals up to 9½ in. wide and of any length. Its overall dimensions are 22 x 14 x 5 in. The Mercury model has a 15½ in. wide throat and measures 29 x 14 x 5 in. Units have attractive, two-tone finishes. Made by **Sperry Rand Corp.**, Remington Rand Div., 315 Fourth Ave., New York 10, N. Y.

▲ For more details circle NED-391 B9 on enclosed inquiry slip ▲

LOW-FLOW BLOWER high efficiency centrifugal type



Miniature Series 300 centrifugal blower develops pressures up to 110 in. of water (4 psi). Over-all width is only 4 in., length is 5½ in., and weight is 2½ lb, including the motor. The unit has high efficiency at low flows. Illustrated model develops 55 in. of water pressure (2 psi) with a 7 to 20-cfm flow. A 1/10-hp 400-cycle ac or 12 and/or 24-v dc motor drives the twin blowers. Made by **Sawyer-Bailey Corp.**, 1559 Niagara St., Buffalo 13, N. Y.

▲ For more details circle NED-392 B9 on enclosed inquiry slip ▲

Are you undecided on the most economical way to bend pipe, tubing or structural metal parts?

Let Pedrick show you some surprising figures on "multiple bending" with PEDRICK PRODUCTION BENDERS.

Write PEDRICK TOOL and MACHINE COMPANY, 3640 N. Lawrence St., Phila. 40, Pa., Dept. 6.

PEDRICK PRODUCTION BENDERS

Free "Pedrick Line" Bulletin. Write today.

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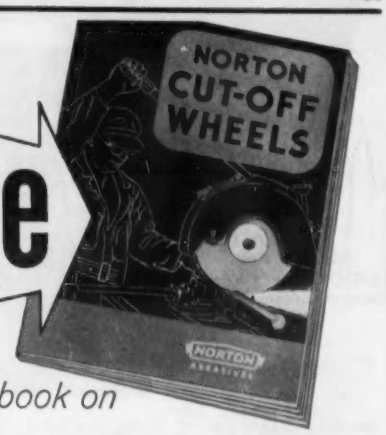
Free



...newest book on

Norton cost-cutters for cutting-off

Norton cut-off wheels are outstanding developments for fast, clean cutting action and long, safe service . . . for use on the widest range of metals and non-metals, and on any type of machine. This book describes all types of Norton cut-off wheels, telling you how to select and operate them for maximum economy and safety. Get your copy from your nearby Norton Distributor, or write to NORTON COMPANY, Worcester 6, Massachusetts.

NORTON ABRASIVES

Making better products...to make your products better

W-1896

▲ For more details circle NED-394 B9 on enclosed inquiry slip ▲

Mr. Hi Frequency, the Electronic "Sleuth" Detects Unwanted Metal

THIS electronic sleuth stops the criminal destruction of quality by detecting stray metal particles in your process or production line. Magnetic or non-magnetic metal particles, no matter how deeply embedded, immediately trigger a warning or reject mechanism when they pass the compact Allis-Chalmers metal detector.

This device is economical to operate, permits conveyor speeds to 600 fpm, and is easily incorporated into any production setup. Ask your local A-C man for Bulletin 15B7217B, or write Allis-Chalmers, Industrial Equipment Division, Milwaukee 1, Wisconsin.

ALLIS-CHALMERS A-C A-5628

▲ For more details circle NED-395 B9 on enclosed inquiry slip ▲

PREMIER FIRST— BOLD NEW VACUUM CLEANER DESIGN

- New Patented Filter —No. 2814357
- 80% more filter area
- 50% more power
- non-clog design
- 15 gal. *usable* tank capacity

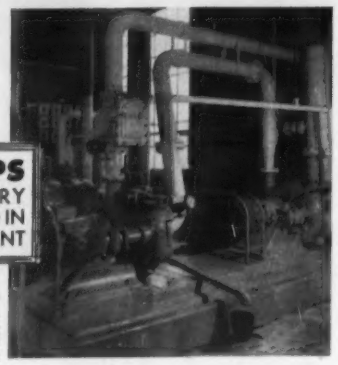
For FREE information on the P1005, the versatile Model 150 Blower and other Premier vacuums and floor machines, fill in and mail this request form. Do it today!

THE PREMIER COMPANY
Dept. 103, 755 Woodlawn Ave., St. Paul 16, Minn.
In Canada: 35 Gerrard St. West, Toronto 2
Attention: Gordon L. Bowman, V.P. & Sales Mgr.
Please rush me FREE details on Premier Industrial Vacuums. Thank you.

NAME _____
COMPANY _____
ADDRESS _____
CITY _____ STATE _____

▲ For more details circle NED-396 B9 on enclosed inquiry slip ▲

Nagle® PUMPS HANDLE SLURRY AGAINST 400' HEAD IN MODERN POWER PLANT



Two Nagle 4" type "T" pumps, in a two stage installation, are ably handling 600 GPM of fly ash slurry against 400 ft. of head, at Windsor plant of Beech Bottom Power Co., Power, W. Va. Water-end parts are of abrasion resistant ABK Ni-Hard nickel iron alloy.

Design of the Nagle type "T" pump provides quick slippage seal adjustment, accessibility of stuffing box and split bearing stand. Entire pump can be quickly dismantled, but it's seldom necessary because it's a Nagle Pump—built for gritty, abusive jobs—pumping abrasive and corrosive materials or hot liquids.

SEND FOR CATALOG 5206

NAGLE PUMPS

NAGLE PUMPS, INC.
1265 CENTER AVE., CHICAGO HEIGHTS, ILL.

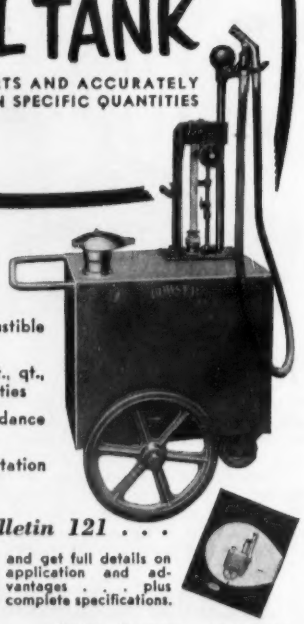
PUMPS FOR ABRASIVE AND CORROSIVE APPLICATIONS

For more details circle NED-397 B9 on enclosed inquiry slip

BOWSER

WHEEL TANK

QUICKLY TRANSPORTS AND ACCURATELY DISPENSES LIQUIDS IN SPECIFIC QUANTITIES



The Bowser Figure 121 Wheel Tank offers:

- Safe handling of combustible liquids
- Accurate dispensing in pt., qt., half gal. and gal. quantities
- Construction in accordance with U. L. Specifications
- Quick and easy transportation of liquids

Write for Bulletin 121 . . .

BOWSER INC. and get full details on application and advantages . . . plus complete specifications.

1381 E. CREIGHTON • FORT WAYNE, INDIANA

For more details circle NED-398 B9 on enclosed inquiry slip

SHRED ALL WASTE PAPER SHREDDER

IN FIVE SIZES WITH CAPACITIES FROM 200 TO 3600 LBS. PER HOUR

Compact, economical, safe. All revolving parts are covered. Instantly adjustable. Shreds ⅛" to ⅜". Designed for continuous and trouble-free service.

Quickly shreds newspapers, magazines, waste paper, cellophane, tissue, corrugated cartons, wax paper, etc. into uniform resilient 1/8" to 3/8" strands, ideal for packaging purposes. Especially adapted to shredding confidential records, blue prints or any classified material. Send for descriptive bulletin S1255. Names of users near you available on request.

FREE TRIAL! Operate a SHRED ALL for 30 days — if not satisfied — return — owe nothing.

UNIVERSAL SHREDDER CO.
2934 Bay Road — Saginaw, Michigan

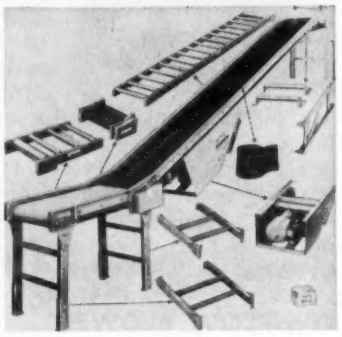
For more details circle NED-399 B9 on enclosed inquiry slip

PUSHBUTTON STATION is corrosionproof and watertight

Available in three or four button models, this pushbutton station is enclosed in a neoprene housing and is corrosion resistant, watertight, and lightweight. Various sizes of grommets accommodate different cable sizes to assure tight enclosure. Synthetic rubber covering is added protection from blows or injury to workmen. Large buttons are protected by shroud rings to prevent accidental operation from any lateral direction. The precision snap-action switches are protected from water and weather, and there is ample room for wiring. Controls are used for pendant type applications on cranes, machinery, and other equipment. Made by **Joy Mfg. Co.**, Electrical Products Div., Dept. P-32, 1201 Macklind Ave., St. Louis 10, Mo.

For more details circle NED-400 B9 on enclosed inquiry slip

BELT CONVEYOR COMPONENTS easily assembled into custom units



Unskilled personnel using common mechanic's hand tools can erect level, inclining, or declining roller bed belt conveyors of any desired length using pre-engineered E-Z Bild belt conveyor components. The units are offered in belt widths of 10, 14, 18, and 22 in. Components include straight intermediate sections, top curves, feeder sections, drives, take-ups, belts, idlers, floor supports, and ceiling hangers. Side frames permit bed rollers to be set high or low. Reversible end and center drives can be supplied in a wide range of speed and horsepower ratings. Made by **Alvey-Ferguson Co.**, 3065 Disney St., Cincinnati 9, Ohio.

For more details circle NED-401 B9 on enclosed inquiry slip

Electronic Equipment Wire

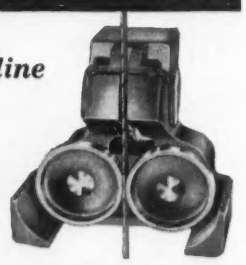
Belden Mfg. Co.—382 new stock items have been added to the hundreds of electrical wires offered in "Electronic Wire Catalog" No. 859. All wires have been grouped by type and application for easier use of this reference manual. Also described is expanded package program which offers wire spooled in a larger variety of lengths to reduce handling costs and to simplify stocking. Wires and cables for practically every need are shown.

For more details circle NED-402 B9 on enclosed inquiry slip

CARTER BAND SAW GUIDES

world's largest, most complete line

- For Any Saw
- Any Speed
- Any Load
- Any Purpose



New Guidall "400" Series

NEW GUIDALL "400" SERIES with bearings rotating on inner race for 167% greater efficiency. Higher speeds and heavier loads than ever possible before.

FAMOUS MICRO-PRECISION GUIDE SERIES require only one set of support blocks for maximum support. Sizes to fit any saw.

NEW ZEFYR BALL BEARING GUIDE WHEEL fits all standard #1 and #0 guides. Has honed, perfectly balanced raceways. Higher speeds, heavier loads, longer life.

NEW BRONZITE Micro-Precision Guide made entirely of nonferrous materials — cannot spark or rust.

NEW UNIVERSAL MOUNTING BRACKETS for Carter Guides on any machine.

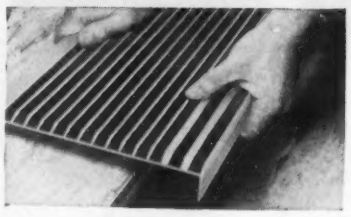
Micro-Precision Guide Series

FREE CARTER BAND SAW GUIDES CATALOG and OPERATING INSTRUCTIONS MANUAL. Write us at: 421 Helmer Building, 50 Market Ave., N. W., Grand Rapids, Michigan

CARTER PRODUCTS COMPANY, Inc.

For more details circle NED-403 B9 on enclosed inquiry slip

NEW SAFETY TREAD



Super - Stairmaster is the new heavy duty aluminum safety stair tread that repairs and modernizes worn or slippery stairs now available from Wooster Products Inc., Wooster, Ohio.

The new abrasive "TRAFFIC-FLOW" design of the Super-Stairmaster has a magnetic-like grip which provides safe, sure traction on commercial-industrial-institutional stairs and is 100% effective under dangerous wet or oily conditions. Perfect safety for ladies' high heels is a feature of interest to managers of buildings open to the public. The treads are rugged and outwear concrete, stone or marble. Easily applied over all types of stairs. Cleans with once-over-sweeping or vacuum.

Approved and recommended by Safety Engineers. Guaranteed by Warranty Bond.

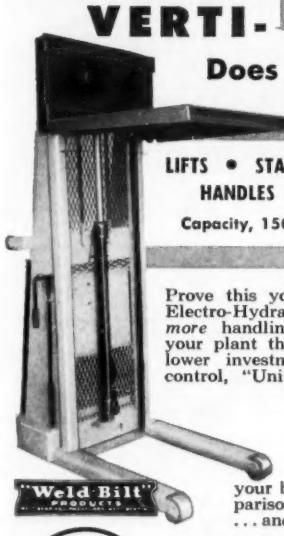
Complete information on Super-Stairmaster and the repair of stairs by return mail. Write Stairmaster, Dept. S-16, **Wooster Products Inc.**, 100 Spruce St., Wooster, Ohio. *(Advt.)*

For more details circle NED-404 B9 on enclosed inquiry slip

NEW... "Lift of 1001 Uses"

Weld-Bilt HY-BOY VERTI-LIFT

Does More Work FASTER...CHEAPER



LIFTS • STACKS • LOADS • UNLOADS
HANDLES Cartons, Pallets, Drums
Capacity, 1500 lbs. • Lifts, 64" to 112"

Prove this yourself . . . New HY-BOY Electro-Hydraulic Verti-lifts "just fit" *more* handling, lifting, stacking jobs in your plant than any other unit! And at lower investment! Modern push-button control, "Unitized" power unit, built-in charger, indicator light and ammeter, self-aligning floor locks, and other features — plus a wide choice of models and accessories—make HY-BOY your best investment by any comparison. Buy one . . . buy several . . . and prove it!

Get your copy of new HY-BOY Portable Verti-lift Catalog featuring the "Lift of 1001 Uses."

Materials Handling Engineers since 1932

WEST BEND EQUIPMENT CORP.
311 River Road, West Bend, Wis.

For more details circle NED-405 B9 on enclosed inquiry slip

Specify the Best in Engraved Tools

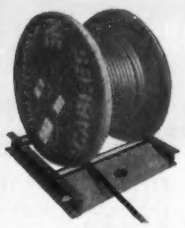
The quality of your product deserves equal quality in your marking.
Our complete inventory of alloy steels permits instant selection to meet your requirements.
Style of lettering is tailored to your job.
Quotations furnished promptly upon request.

IF IT'S WORTH MAKING, IT'S WORTH MARKING.

GEO. T. SCHMIDT, INC.
1800 W. Belle Plaine Avenue
Chicago 13, Illinois

For more details circle NED-406 B9 on enclosed inquiry slip

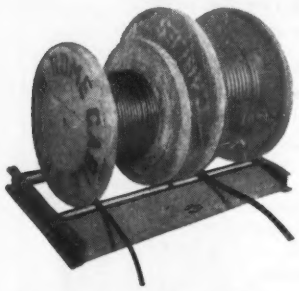
LOAD 'EM . . .
LET 'EM ROLL
HANDLE REELS
THE EASY WAY!



Easy, simple, efficient, time and labor-saving. Just load cable, wire or rope reels on Roll-A-Reel and let 'em roll on the ball-bearing adjustable rollers, on heavy steel frame.

Style "A" 2,000 lbs. cap. for reels up to 28 in. wide. (weight 60#)

PRICE — $46.50
F. O. B. Cincinnati



★ No jacks
★ Handle any reel diameter
★ Heavy steel frame
★ Slanted front
★ Ball-bearing adjustable rollers
★ Positive roller lock for unloading

Style "B" 4,000 lbs. cap. for 2 reels up to 24 in. wide each, or 1 reel up to 48 in. wide. (weight 110#)

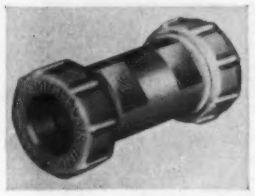
PRICE — $84.50
F. O. B. Cincinnati

(Special sizes quoted on request)
Order today...or write for details

ROLL•A•REEL
4630 Reading Road
Cincinnati 29, Ohio

▲ For more details circle NED-407 B9 on enclosed inquiry slip ▲

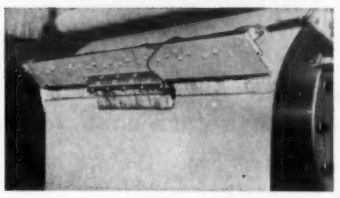
IRON PIPE COUPLINGS
join ½ to 2-in. pipe by compression



Cast malleable iron sleeves and end nuts equipped with wedge type rubber gaskets serve as compression couplings for joining ½ to 2-in. iron pipe. The beveled gaskets draw tight to effectively seal around new or deteriorated pipe. Coupling is easily installed and disassembled. A friction ring prevents gasket scuffing and facilitates tightening. Ribbed end nut surface permits a wrench to be applied at any position for tightening. Short and long sleeve length couplings are galvanized or finished with a rust-inhibiting blue lacquer. Made by **Smith-Blair, Inc.**, 535 Railroad Ave., South San Francisco, Calif.

▲ For more details circle NED-410 B9 on enclosed inquiry slip ▲

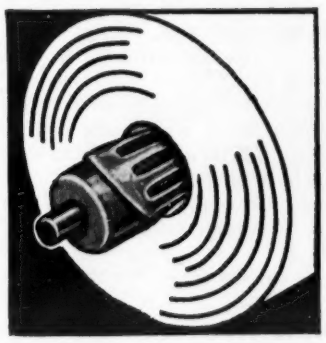
VOID DETECTION BRUSHES
test nonconducting materials



Paper, plastic, rubber, or other electrically nonconducting materials are tested for holes or flaws by Metlkor void detection brushes. The product is passed between the feeler brush and a metal roll, plate, or bar. Whenever a hole or flaw appears, the brushes contact the grounded roll, causing the low voltage pulse to be transmitted to a remote unit which indicates and records the exact location of the holes and flaws. Made by **M. W. Jenkins' Sons, Inc.**, 444 Pompton Ave., Cedar Grove, N. J.

▲ For more details circle NED-411 B9 on enclosed inquiry slip ▲

CORE CHUCK
for web-fed materials equipment



Designed to prevent cores of web-fed materials from loosening or slipping, this self - tightening core chuck is positive-acting and easy to use. Two eccentric ribbed chucks slip into the ends of the web core against two eccentric rings secured to the let-off shaft. Holding action increases as the tension increases. A reverse twist instantly releases the chuck and frees the core for the next roll. Two core chucks for 3-in. cores to fit various size shafts are priced at $30. Made by **Stanford Engineering Co.**, Salem, Ill.

▲ For more details circle NED-412 B9 on enclosed inquiry slip ▲

CRT* High Tensile ALLOY STEEL STUDS

ALLOY, STAINLESS AND NON-FERROUS PRODUCTS FOR REFINERIES, CHEMICAL PLANTS, UTILITIES AND GENERAL INDUSTRIES

"Lok-Thred" Licensee

SINTZ *CRT threaded steel and non ferrous rod *COLD ROLLED THREADED—BEADS COLD •QUALITY •SERVICE •PRICE Established 1912

CLAUDE SINTZ INC.
1928-40 STANLEY AVENUE
DETROIT 8, MICHIGAN

▲ For more details circle NED-413 B9 on enclosed inquiry slip ▲

The NEWEST and FINEST...
...in precision soldering tools.

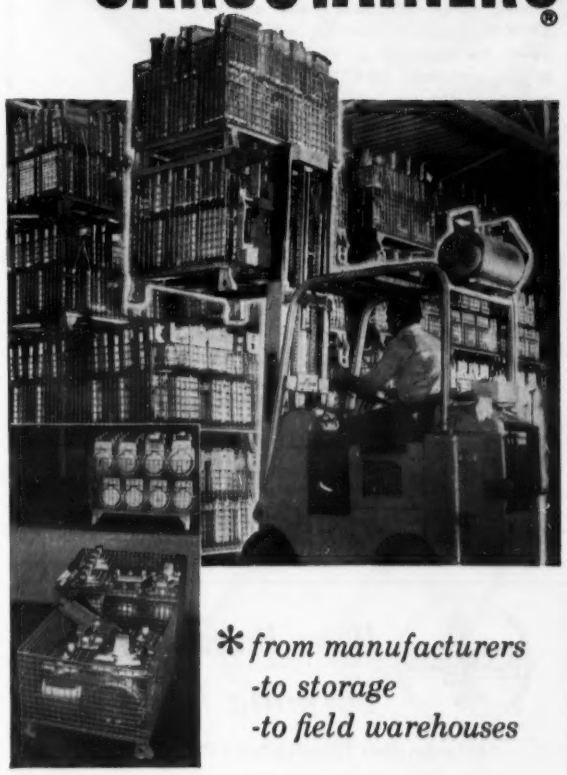
- Resistance Principle
- Dual Metal Alloy Tips
- No Ground Circuit
- Handpiece Weighs Ounce
- Sound Engineering
- Quality Plus
- Gap Adjustable
- Heats at tips only
- Dramatically Fast
- Soldering No. 20 Wire in 1.9 Seconds
- Strictly a High Production Industrial Tool
- Cold, Porous, Soldered Joints Are Eliminated
- Increases Production 10 to 50%
- Tweezer Effect Without Fatigue
- Three Heats: 15-50-100 Watts

Write For.... ....Bulletin 105M Today!

Wassco Electric Products Corp.
2032 2nd. AVE. SO., ST. PETERSBURG 12, FLORIDA

▲ For more details circle NED-408 B9 on enclosed inquiry slip ▲

HOW a Large Southwestern Utility
Reduced—
MATERIAL HANDLING COSTS
with CARGOTAINERS®



*from manufacturers
-to storage
-to field warehouses

This utility company had over half a million meters in service and required 40,000 new installations annually. The cost of individual handling of meters, regulators and other equipment was high. Inventory control was expensive.

About two years ago they began the experimental use of CARGOTAINERS and have since standardized on them because: 1) Meters and other equipment are shipped in them direct from manufacturers. 2) These containers are unloaded by fork-lift truck in minutes and stacked four-high in storage. 3) They provide visible inventory. 4) Needs of eight divisional bases are met without removal of contents. 5) Collapsed when not in use, they are conveniently stacked.

CARGOTAINERS are available in sizes to suit *your* material handling needs. Write today for complete information and prices.

CARGOTAINER
DIVISION
TRI-STATE ENGINEERING COMPANY
WASHINGTON, PENNSYLVANIA
mhi MEMBER

▲ For more details circle NED-414 B9 on enclosed inquiry slip ▲

new roofing material...
TROPIGLAS

New development cuts roof repair cost to little more than material cost!

Tropiglas is the biggest roofing advance in 50 years! Ageless glass fibres make it tough, flexible, durable, light weight—it imposes no excess load on roof. Lies flat instantly—no waiting. Applied by unskilled labor, Tropiglas *embeds* in Tropical Cold Process Roofkoter, forms a tight, one-layer surface that can't blister, rot or wrinkle. Use it for all roof repair and reconditioning, for a fast, low-cost, longer-lasting job.

FREE! Write for complete information on how TROPIGLAS does a better roof reconditioning job at lower cost.

OUR 76th YEAR

TROPICAL PAINT COMPANY • 1124-1212 W. 70th, Cleveland 2, Ohio
Heavy-Duty Maintenance Paints Since 1883 • SUBSIDIARY OF PARKER RUST PROOF COMPANY

▲ For more details circle NED-409 B9 on enclosed inquiry slip ▲

PERMANENTLY INSTALLED Hytrol CONVEYORS

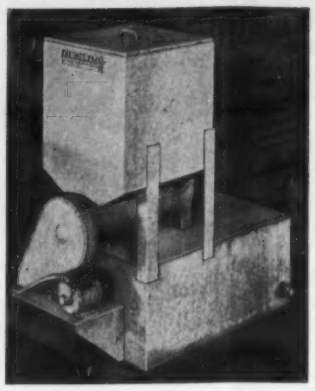
This Hytrol Model F Conveyor moves materials floor to floor with cost-saving speed and efficiency. Additional sections and attachments make it readily adaptable to expanding needs. Write for catalog of complete Hytrol line.

HYTROL Conveyor Co. INC.

1957 S. 54th Street Milwaukee 19, Wis.

For more details circle NED-416 B9 on enclosed inquiry slip

SOLUTION REPLENISHER maintains level and strength

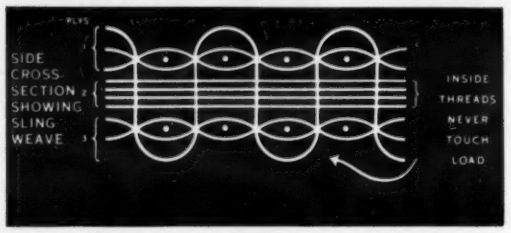


This solution tank replenisher automatically feeds dry chemicals into water, mixing the two as they are introduced to a main tank. Usable in process, chemical, and other fields, this unit will work with any equipment having solution tanks. When the controlled solution tank level drops, a float valve actuates a screw conveyor to feed dry chemicals from a hopper, and a solenoid valve opens to supply water at the rate required. Units can be supplied with or without mechanical mixers, depending upon the solubility of the additives. Made by **Cincinnati Cleaning & Finishing Machinery Co.**, 2029 Hageman St., Cincinnati 41, Ohio.

For more details circle NED-419 B9 on enclosed inquiry slip

LOAD LIFTING SLINGS have nylon or Dacron yarn core

Flexible, lightweight, high safety factor Du-Mor load-lifting webbing slings are fabricated with either a nylon or Dacron yarn core and a woven outer cover-



ing for core protection. Slings conform to the shape of the load and bend across the width of the sling. Both nylon and Dacron slings are made in an endless type, with triangular hardware and an eye in each end. Type NE-73 nylon webbing slings with a breaking strength of 6000 lb per inch provide a 4-to-1 safety factor with a working load of 1500 lb per in. Type DC Dacron webbing slings have a 4000-lb-per-inch breaking strength, or a 1000-lb per inch working load capacity with a 4-to-1 safety factor. Made by **Columbian Rope Co.**, 309 Genesee St., Auburn, N. Y.

For more details circle NED-420 B9 on enclosed inquiry slip

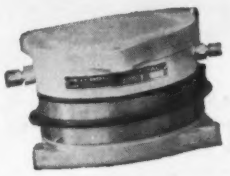
Hand Trucks

Modern Equipment Co.—Barrel and drum trucks, barrel lift and drain stands, conventional hand trucks, barrel and box skids, plus platform, hand drum, warehouse, case, delivery, stock, shelf, pail, and keg trucks are described and illustrated in 16-page Catalog 58.

For more details circle NED-421 B9 on enclosed inquiry slip

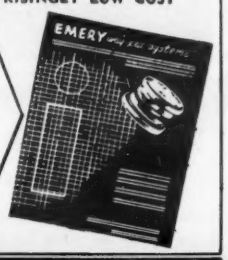
announcing . . .
THE NEW WAY-PAC* LINE OF HYDRAULIC LOAD CELLS

Developed for the 0 to 1000 pound range, the new Emery WAY-PAC load cell line features:



- THE "ROLLING BALL" HEAD
- SIMPLE OPERATION
- SMALL CELL SIZE
- LOW CAPACITY
- EXTREME ACCURACY
- REMOTE INSTRUMENTATION
- SURPRISINGLY LOW COST

Complete details in our new Bulletin 582 just off the press. Send for it today!



* Trade Mark

THE A. H. EMERY COMPANY
PINE STREET • NEW CANAAN, CONN.

For more details circle NED-423 B9 on enclosed inquiry slip

PROTECTED

NEW GORTITE (neoprene) way protection is winning rapid acceptance for all machine tools.

1 or 100 parts may be fabricated to order without molds. Only these newest and best GORTITE neoprene materials will overcome the weaknesses of obsolete, pliable materials. GORTITE is the protection that has passed rigid tests — AMS 3270 and MID-5-7719 in aviation service.

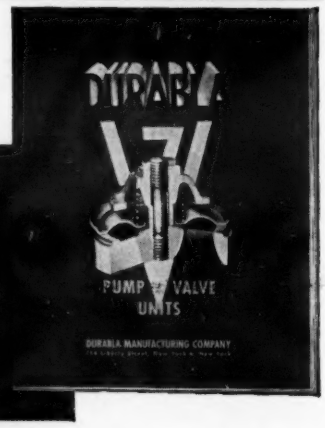
NEW BULLETIN

GW-100 illustrates way-protectors which open to 90° on both sides of the column and close to an unbelieveable 24". GW-100 mailed on request to A&A Mfg. Company, Inc., 712 S. 12th St., Milwaukee 4, Wis.

ALL SHAPES & CONTOURS

For more details circle NED-417 B9 on enclosed inquiry slip

DATA you need



to select improved valves for your pumps

Famous for sustained efficiency under widely varied service conditions, DURABLA Pump Valve Units have been redesigned to incorporate a new taper-lock* stud, self-locking nut and drop-on guard. This improved design offers *seven new points of superiority.*

The booklet shows how DURABLA Pump Valve Units can benefit your pumps. Includes design details, materials available, table of seat sizes and dimensions. Send for free copy of Form 400 NED29.

DURABLA MANUFACTURING COMPANY
114 Liberty Street, New York 6, N. Y.

DURABLA®

*Patent Pending DM-29

For more details circle NED-424 B9 on enclosed inquiry slip

WIL-GARD

Why Balanced-Formula Neoprene

ASSURES BETTER HAND PROTECTION

New Wil-Gard Balanced-Formula Process keeps all vital protective features in balance! Better resistance to scores of industrial solutions and solvents. Longer-lasting toughness and durability. Stay-on comfort and flexibility.

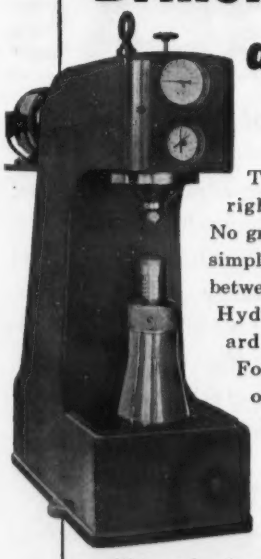
PROTECTION FOR THE HANDS OF INDUSTRY • SINCE 1916

WIL-GARD®

THE WILSON RUBBER COMPANY INDUSTRIAL DIVISION CANTON 6, OHIO
A Division of Becton, Dickinson and Company WR-158-27-C

For more details circle NED-418 B9 on enclosed inquiry slip

Brinell Testing *at Production Line Speeds*



Test round or flat parts fast, right in the production line. No grinding necessary. Operator simply notes that needle reads between pre-set tolerance hands. Hydraulically applied standard Brinell loads are used. Foot control allows operator to test parts as quickly as he can move them through.

Long stroke models also available.

Write today for more information

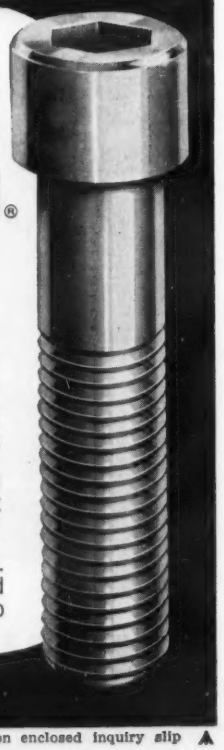
DETROIT TESTING MACHINE COMPANY
9394 Grinnell Avenue, Detroit 13, Michigan

For more details circle NED-422 B9 on enclosed inquiry slip

You can do better...with

B-RIGHT-ON®

SOCKET SCREW PRODUCTS



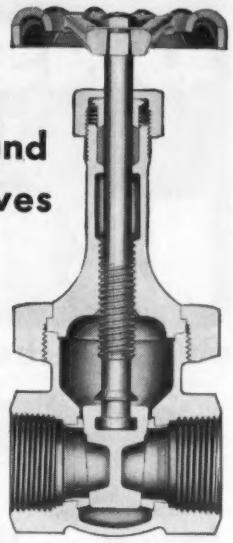
- Rigid QUALITY CONTROL from initial steel selection to final packaging
- IMMEDIATE SERVICE from selected mill supply houses' stocks
- Design and Dimensional Brochure on request

THE BRIGHTON SCREW & MFG. CO.
1957 Reading Road
Cincinnati 2, Ohio

For more details circle NED-425 B9 on enclosed inquiry slip

Better for Tough Jobs

New CRANE 200-Pound Bronze Gate Valves



- Stronger cylindrical body
- Tighter seating . . . smoother operation
- 12% chromium steel, expanded type body rings
- Renewable solid wedge disc
- Rising and non-rising stem patterns
- ¼- to 3-in. sizes
- Available from local stocks

Cross section Rising Stem Pattern No. 424

Watch how your piping maintenance costs go down wherever you standardize on these valves. Get Circular AD-2285 from your Crane Representative, or write to address below.

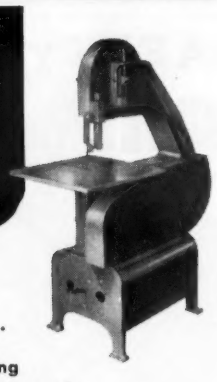
CRANE VALVES & FITTINGS

PIPE • KITCHENS • PLUMBING • HEATING

Since 1855—Crane Co., General Offices: Chicago 5, Ill. Branches and Wholesalers Serving All Areas

For more details circle NED-426 B9 on enclosed inquiry slip

LOCKFORMER BETT-MARR **BAND SAW**



- 24" throat without 24" bulk . . .
- Variable speeds without speed reducer power losses . . .
- Heavy-duty, production cutting at half the price you'd expect to pay!

Big enough for almost any sawing job, small enough to fit most anywhere, the Lockformer Band Saw's low cost makes it a practical and profitable investment for *any* shop. Blade speeds of 100, 600 and 3000 fpm give production speed cutting on wood, plastics, forgings, steel plate, non-ferrous metals and stainless steels. Ball bearings with neoprene seals, cemented carbide blade guides, friction-free and slip-proof chain for final drive and many other top-quality features.

WRITE FOR bulletin giving full facts.

THE **LOCKFORMER** CO.

Dept. N 4615 West Roosevelt Road Chicago 50, Illinois

In Canada: Brown Boggs Foundry & Machine Co., Ltd., Hamilton, Ontario

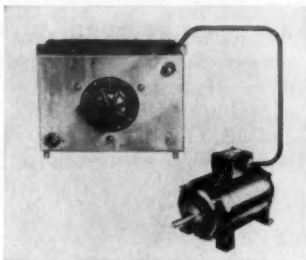
For more details circle NED-427 B9 on enclosed inquiry slip

PREDETERMINING COUNTER
tiny unit has 1-899 range

Operating as a subtractive counter, the Model CV magnetic predetermining counter always has the remaining pulse count visible. It receives direct current pulses of any number from 1 to 899 as manually set. Speed is 1200 counts per minute. As the counter wheels pass zero count a set of contacts opens. Unit measures 1⅛ x 1 5/16 x 2 in. without panel mount case. It weighs 3 oz and is offered in 6, 12, 24, and 110-v models. Made by **Abrams Instrument Corp.**, 606 E. Shiawassee St., Lansing 1, Mich.

For more details circle NED-429 B9 on enclosed inquiry slip

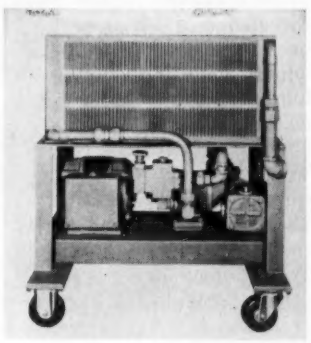
ADJUSTABLE-SPEED DRIVES
17 models range from 1/20 to ¾ hp



Smooth control from zero to maximum rated speed is afforded by series of adjustable-speed drives comprising 17 different models ranging from 1/20 to ¾ hp. The controlled silicon rectifiers are contained in compact enclosures for bench use or wall mounting. Prices start at $117 complete with motor. A ½-hp model selling for $239 with an ungeared motor is included in the series. Made by **Servo-Tek Products Co.**, 1086 Goffle Rd., Hawthorne, N. J.

For more details circle NED-430 B9 on enclosed inquiry slip

FILTERING SYSTEM
portable hydraulic reservoir unit



Hydraulic reservoirs can be cleaned without interrupting their operation by this portable hydraulic filtering system. Flexible hoses attached to the unit are inserted in reservoir openings, drums, or other fluid storage containers to draw fluid out and through the filter. Clean fluid can also be cooled before returning it to the reservoir, as in the model shown. System consists of 110-v motor, 20-gpm pump, relief valve, air type oil cooler (optional), and 50-gpm Tell-Tale dirt-indicating filter unit. Filter cartridge is cleaned in 5 min. Made by **Rosaen Co.**, 1776 E. Nine Mile Rd., Hazel Park, Mich.

For more details circle NED-431 B9 on enclosed inquiry slip

HERE'S WHY

LINK-BELT CONVEYOR TROLLEYS

RIDE SMOOTHER . . . LONGER

1. EXTRA-LONG LIFE results from carburizing and heat treating wheels, machined from steel tubing.
2. FRICTION IS MINIMIZED because cages space steel balls accurately.
3. FREE-ROLLING ACTION AND HIGH CAPACITY are benefits assured by precision-ground raceways.
4. PRESS-FITTING of bolts or rivets is another long-life feature.
5. NO WHEEL "WOBBLE". Forged steel brackets provide strength to keep trolleys aligned.

15,005

NEW TROLLEY BOOK 2636 is now available. Send for your copy today.

LINK-BELT

BALL BEARING CONVEYOR TROLLEYS
LINK-BELT COMPANY, Prudential Plaza, Dept. NED, Chicago 1, Ill.

For more details circle NED-432 B9 on enclosed inquiry slip

Ask your industrial supply house, or write —

THE WOOD SHOVEL & TOOL CO.

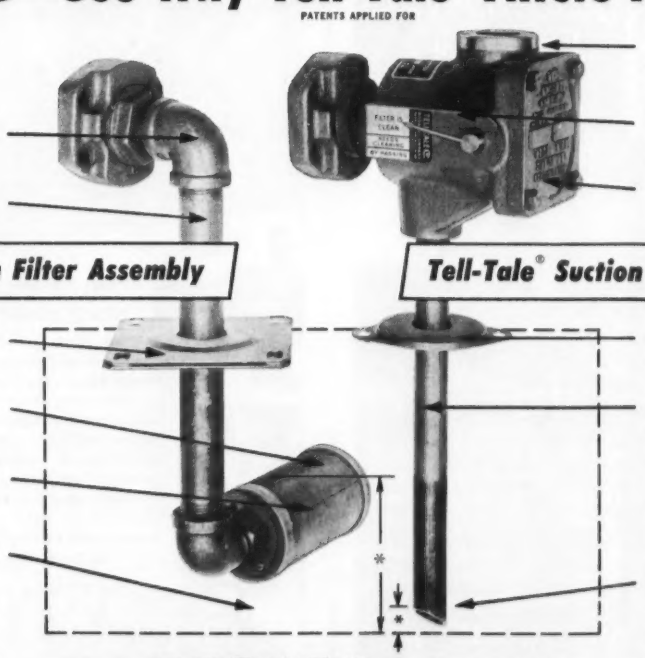
PIQUA, OHIO

For more details circle NED-433 B9 on enclosed inquiry slip

Compare—See Why Tell-Tale® Filters Are Best

PATENTS APPLIED FOR

Note the built-in dangers in the old system below



Piping removal necessary to clean filter boosts maintenance cost.

Wrong sized pipe often used, due to size of inlet-port on pump.

See oil through glass port, prevent dry starts or air entrainment going unnoticed.

Indicator tells when to clean the filter.

Filter reached for cleaning through end-plate. Normal cleaning time: only 5 minutes.

Ordinary Suction Filter Assembly

Tell-Tale® Suction Filter Assembly

In-tank filters require more costly openings and pipe retainers.

Impossible to determine when to clean with filter submerged in tank.

Clogged filters cause 90% of pump failures (by cavitation).

Tank must be cleaned often to remove settled dirt. Dirt breaks down oil and additives.

*Depth of oil that cannot be utilized. Low intake-pipe opening with Tell-Tale permits more oil to be used.

Only small round hole needed, for minimum installation cost.

Proper pipe size assured by following Tell-Tale inlet-port size.

Tell-Tale pressure-drop controls prevent pump cavitation. Proper control is selected to suit make and type of pump.

Low intake-pipe opening keeps tank clean, promotes longer oil life.

Tell-Tale filter assembly replaces ordinary assemblies without rearranging other components.

The ROSAEN COMPANY

1776 EAST NINE MILE ROAD • HAZEL PARK, MICHIGAN

For more details circle NED-428 B9 on enclosed inquiry slip

WORLD'S NO.1 INDUSTRIAL MARKER!

King Size FLO-MASTER Felt Tip Pen

Marks BIG & BOLD on any surface!

Especially designed for heavy duty use at your Shipping Room Table—Factory Bench.

King Size Flo-master has a greater ink capacity, uses larger felt tips (up to 1" wide) than any other marking instrument. For use with: • Transparent marking inks, *all colors* • Paint-like, opaque pigments, *all colors* • Most industrial solvents

Dual-purpose, snap-on cap may be screwed to table or work bench as a convenient, permanently-secured receptacle. Installed as shown, receptacle is airtight, keeps felt tip always moist, clean and free from factory dust and dirt, always ready for instant-marking on metal, glass, wood, plastics, rubber, fabrics.

By the makers of the *pocket-size* Flo-master Felt Tip Pen—"The Standard of all Industry."

At your marking equipment supplier —or write to

Dept. NE-2

CUSHMAN & DENISON

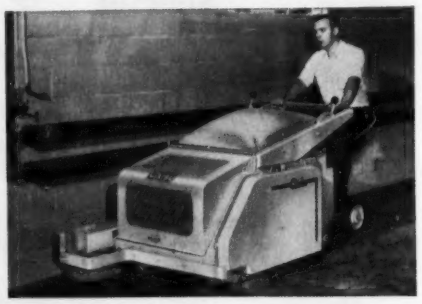
Carlstadt, New Jersey

QUALITY PRODUCTS FOR 75 YEARS

For more details circle NED-434 B9 on enclosed inquiry slip

Clarke POWER SWEEPERS

—do the work of up to 20 men!
—cut sweeping costs up to 80%!



It's Clarke's newest addition to the nation's best known line of floor machines. It's built to sweep cleaner, faster and more dust-free than any other sweeping method. Picks up all types of debris, covers up to 50,000 sq. ft. per hour, sweeps right up to walls, maneuvers easily, slashes man hours and sweeping costs.

Write for new brochure. Better yet, ask your Clarke power sweeper distributor for an on-the-job demonstration.

CLARKE FLOOR MACHINE COMPANY

Formerly Clarke Sanding Machine Company

222 E. Clay Avenue, Muskegon, Mich.

Authorized Sales Representatives and Service Branches in Principal Cities. In Canada: Clarke Floor Machine Co., (Canada) Ltd., 21 Advance Rd., Toronto 18, Ontario

For more details circle NED-435 B9 on enclosed inquiry slip

REVIVE OLD STIFFS!

. . . easier, faster, economically

- cleans hardened brushes thoroughly
- restores bristles to natural flexibility
- won't evaporate
- non-inflammable
- safe for finest bristles
- use it over and over again

Don't throw old brushes away — use Cabot's Brush Cleaner first . . . it's your best solution!

Write for free sample

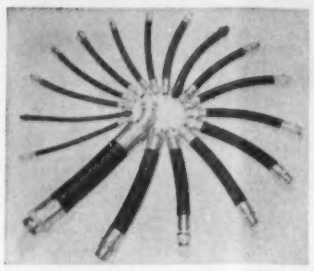
SAMUEL CABOT INC.

232 Oliver Building, Boston 9, Massachusetts

Please send sample of Cabot's Brush Cleaner

For more details circle NED-436 B9 on enclosed inquiry slip

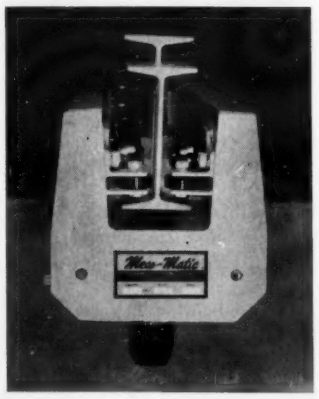
HOSE ASSEMBLIES with permanently attached ends



Low, medium, and high pressure hydraulic and pneumatic hose assemblies with permanently attached ends are offered in the Krimp-lok line. Included are wire-inserted woven rayon, rayon braid, steel wire single and double braid, and steel wire spiral-reinforced hose types. These threaded end fittings are available: Male pipe, swivel male pipe, 37-degree flare and swivel nut, 45-degree flare and swivel nut, and straight for SAE O-ring boss. Straight and angle four-bolt split flange end connectors are offered, along with hose fitting adapters which multiply connection possibilities. Hose sizes range from 3/16 to 2-in. ID, pipe thread ends from 1/8 to 2 in., and tube end sizes from No. 3 to 32. Hoses withstand up to 22,000 psi in the smaller sizes. Krimp-lok assemblies complement the line of reusable Hoze-Lok fittings and industrial hose. Made by **Parker-Hannifin Corp.**, Parker Fittings & Hose Div., 17325 Euclid Ave., Cleveland 12, Ohio.

For more details circle NED-437 B9 on enclosed inquiry slip

UNDERHUNG CRANE push, hand geared, and motorized types run on over 20 sizes of beams



Meco-Matic crane can be made to operate on hardened monorail tracks at least 4 in. wide, structural I-beam sizes from 8 to 15 in., and on wide-flange beams where the flange width does not exceed 6½ in. Steel wheels have induction hardened treads and a double radius that provides a crowned wheel. The flangeless wheels can be reversed to double their life. Wheels are self-aligning, but side guide rollers in the end truck frame act as rolling flanges.

A friction tire drive is used to propel the crane. The same crane unit is used for push type, hand geared, and motor driven cranes. Push type is moved by pushing on the load being handled. Hand geared type has a friction tire drive and a hand chain wheel mounted on a cross shaft. Motor driven unit has a Timken bearing equipped helical spur gear reduction unit which provides equal drive torque on each end of the crane. Made by **Mechanical Equipment Co.**, 3100 Prospect Ave., Cleveland 15, Ohio.

For more details circle NED-438 B9 on enclosed inquiry slip

GRIEVE-HENDRY PORTABLE ELECTRIC OVENS...

Standard Models For Every Special Need!

Model CR-1

10 cu. ft. capacity—30" wide x 25" deep x 24" high. Removable shelves and drip pan . . . . . $110.50 f.o.b. Chicago

Portable. Costs less than 5c per hour to operate. Adjustable temperature control to 225° F. Fan driven forced air circulation. Uniform temperature throughout. Plugs into any 110V wall outlet—no special wiring required.

Quick Quotations —Prompt Delivery — Reasonable Prices—on Ovens made to your specifications.

Can be used in a group or bank. Use them on the production line —save handling—hauling.

Other standard models with temperature ranges to 1000°F. available. Write for literature.

GRIEVE-HENDRY CO., INC.

1408 W. Carroll Ave., Chicago 7, Ill.

For more details circle NED-439 B9 on enclosed inquiry slip

UNSTICK stuck BINS

with new electro-permanent magnetic

ERIEZ HI-VI VIBRATORS

PAT. PEND.

Here's the newest and most efficient answer to those hard-to-move materials in sticky bins . . . designed to provide superior operating efficiency . . . exclusive pinpointed vibration gets right to the trouble spot — starts stubborn materials moving!

NO RECTIFIER NEEDED • COMPLETELY ENCLOSED HOUSING • GREATER VIBRATION IMPACT THAN COMPARABLE SIZE UNITS • RUGGED AND DURABLE • LOW FIRST COST • LOW OPERATING AND MAINTENANCE COST • Special Mill Mutual ACCEPTED Units for HAZARDOUS DUSTY LOCATIONS

ERIEZ

GET THE WHOLE STORY . . . WRITE TODAY. Eriez Mfg. Co., 80-P Magnet Dr., Erie, Pa.

For more details circle NED-440 B9 on enclosed inquiry slip

SAFETY GRIP-STRUT

Patented

Standard tread with standard nosing. Also with abrasive nosing.

STAIR TREADS

for greater safety • for greater economy

Use Safety GRIP-STRUT stair treads throughout your plant, on your manufactured products for greater anti-skid protection. All one piece of material with open area in excess of 55% total area, easy to flush clean, greater strength with less weight, in steel or aluminum.

Available at Globe Distributors in all principal cities. Consult yellow pages in your phone book under "stair treads."

PRODUCTS DIVISION

THE GLOBE COMPANY

4002 S. PRINCETON AVE. • CHICAGO 9, ILL.

For more details circle NED-441 B9 on enclosed inquiry slip

Saw Large Holes thru sheet or plate

MARVEL High-Speed-Edge Hole Saws (with high-speed-steel cutting edge integrally welded to tough alloy steel body) provide fast, economical means of sawing out holes from 9/16" to 6" diameter through steel up to 1⅛" thickness. Extra cutting quality and high-speed-steel, self-aligning, double drive pin arbors give strength for use on drill presses, lathes and portable tools, greatly increase the hole size capacity of small tools. Last longer and cut faster with safety.

Write for Hole Saw Catalog Sheets.

MARVEL Metal Cutting SAWS

Better Machines—Better Blades

ARMSTRONG-BLUM MFG. CO.

"The Hack Saw People"

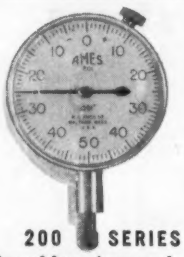
5700 Bloomingdale Ave. Chicago 39, U.S.A.

For more details circle NED-442 B9 on enclosed inquiry slip

AMEs

Masters of Measurement

PORTA-CHECK®
A transistorized comparator for fast, accurate measurement to .00001".



200 SERIES
One of four sizes; made to AGD specifications.

For more than half a century, Ames measuring instruments have been regarded as the finest available. Wherever precision is *really* important . . . you'll find Ames indicators, gauges, micrometers and comparators on the job.

Representatives in Principal Cities

B.C. AMES CO.
34 Ames Street, Waltham 54, Mass.
Canadian Office — B. C. Ames Co., 45 Oriole Parkway, Toronto
MANUFACTURERS OF MICROMETER DIAL INDICATORS AND GAUGES
For more details circle **NED-443 B9** on enclosed inquiry slip

Your Idea-Sparker on Electric Cable Control...

Write for your free copy of Gleason Catalog, Industry's most complete "Idea Book" on profitable application of Gleason Spring Reels, Motor Reels, Hand Reels — for electric cable, cord, and hose Control for all equipment in motion. Or write for engineering suggestions.

Gleason Reel Corp
738 N. Plankinton Ave., Milwaukee 3, Wis.
SPRING REEL HEADQUARTERS FOR ALL INDUSTRY
For more details circle **NED-444 B9** on enclosed inquiry slip

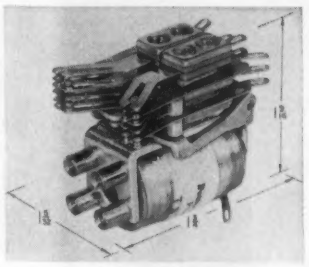
NEW
Electrical Fuel Level Gauge for rugged mobile tank use

New remote indicating fuel level gauge by RMC. Voltage compensated for 6 and 12 volt systems. Thoroughly lab and field tested for use in mobile tanks of all kinds —unfaltering accuracy under roughest conditions of use. Pressure types available for LP-Gas.

Send for descriptive literature or outline your particular requirements.

RMC
ROCHESTER MANUFACTURING CO.
114 ROCKWOOD ST., ROCHESTER, N.Y.
For more details circle **NED-445 B9** on enclosed inquiry slip

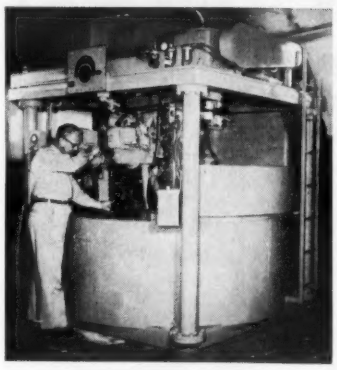
SHORT COIL RELAY
has bifurcated contact arms



Modified short coil TS telephone type relay features bifurcated contact arms with as many as 20 arms per relay, or 10 arms per stack. This model provides long, reliable operating life and high contact loads. Relay operates on as little as 100 milliwatts per movable arm. It can be furnished for up to 110 v dc, and it will switch up to 4 amp at 115 v, 60 cycle, resistive loads. Size is 1¾ x 1 5/32 x 1 9/16 in. Made by **Potter & Brumfield, Inc.**, 270 N. Main St., Princeton, Ind.

For more details circle **NED-446 B9** on enclosed inquiry slip

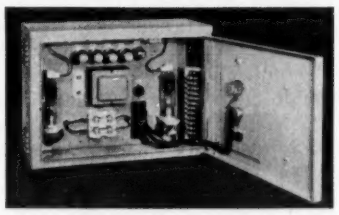
DEBURRING MACHINE
handles paired components



Connecting rods and caps or other paired components which must be deburred and remain together can be handled by the MM-4-8 Mechamatic deburring and finishing machine. Parts are mounted on air-operated spindle fixtures which are submerged, while rotating, in a fluid abrasive mass. On a 1-min cycle, the machine will finish 480 pieces per hour. Process is completely automatic and controlled except for loading and unloading. Made by **Mecha-Finish Corp.**, Box 308, Sturgis, Mich.

For more details circle **NED-447 B9** on enclosed inquiry slip

WELDING CONTROL
for use with small bench welders



Weld current of all types of resistance bench welders, especially for such small or delicate parts, electrical components, watches, and jewelry, is controlled by the Model 10E49E-A synchronous electronic control. It is available for 115/230 v and is equipped with two plug-in Thyratron firing tubes. The Thyratron contactor is rated at 12 amp at 50 per cent duty cycle with a 5-sec averaging time. Cabinet measures 10 x 22 x 15 in. Made by **Robotron Corp.**, 21300 W. Eight Mile Rd., Detroit 19, Mich.

For more details circle **NED-448 B9** on enclosed inquiry slip

FREE LUBRICATION SURVEY OF YOUR PLANT

Eliminate bearing failures like this
(due to haphazard lubrication)

An experienced Farval engineer will come into your plant and conduct a Free Lubrication Survey of your equipment. This Farval Survey will tell you:

1 The most economical method of lubrication for each piece of your equipment.

2 Whether centralized lubrication can be installed on your present equipment.

3 The cost to you of a Farval centralized system of lubrication on any or all pieces of machinery.

4 How centralized lubrication can increase bearing life, save you maintenance costs and increase production.

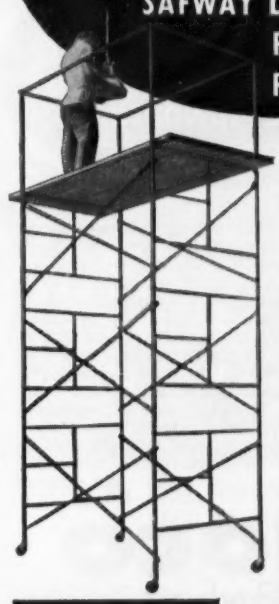
These are facts that can save you thousands of dollars! A Farval engineer is ready to serve you promptly. This is a Free Survey—no obligation. Write today!

THE FARVAL CORPORATION
3283 East 80th Street • Cleveland 4, Ohio
Affiliate of The Cleveland Worm and Gear Company, Industrial Worm Gearing
For more details circle **NED-449 B9** on enclosed inquiry slip

YOUR BEST MOVE IS TO MOVE WITH
MERRILL
MATERIAL HANDLING DEVICES

For Interesting Information write
MERRILL BROTHERS
56-13 Arnold Ave., Maspeth, N. Y.
3-R-5
For more details circle **NED-450 B9** on enclosed inquiry slip

Cut Overhead Working Time!
SAFWAY LOW-COST TOWERS ROLL TO THE JOB, REACH HIGH WORK



MAINTENANCE MEN get around faster with a safe, handy Safway rolling scaffold tower!

Towers roll to the job on big swiveling casters and lock firmly for climbing and work completion...then unlock to follow the work or move on to another job.

Interchangeable steel scaffold parts assemble to any tower height or shape. Platform supports every 16 in. Built-in climbing ladder; 40" high guard rail.

For top economy, low-cost *"packaged"* towers are available in three useful heights—8 ft., 12 ft. and 16 ft. Base area 4 x 7 ft. Tower illustrated is 12 ft. high-

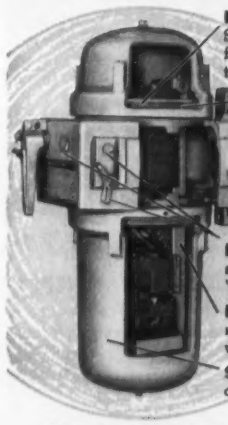
SAFWAY
STEEL PRODUCTS, INC.
6213 W. State St., Milwaukee 13, Wis.

Write for FREE BULLETIN 62

For more details circle **NED-451 B9** on enclosed inquiry slip

NEW SPIN TOP ENCLOSURE FOR HAZARDOUS LOCATIONS

4 SIZES for Starters 0 thru 5
CLASS I, GROUP C and D • CLASS II, GROUP E, F, and G



DAMAGE-RESISTING Acme thread. So easy to put on and take off tanks for installation, inspection or maintenance.

REAL PROTECTION against rain, dust, dirt and weather because male threads on collar section engage female threads on tank.

INCREASED WIRING SPACE and through-feed conduit entrances for horizontal tap-offs.

EASY TO ADD pushbuttons or selector switches with easy-to-buy, easy-to-use, "off-the-shelf" parts kits.

EASY TO INSTALL • "Slide and Hook" mounting arrangement takes the hard work out of the installation job.

STRONG and LIGHTWEIGHT • The complete enclosure is cast aluminum.

Write for BULLETIN 9990. Square D Company, 4041 North Richards St., Milwaukee 12, Wis.

NOW...EC&M PRODUCTS ARE A PART OF THE SQUARE D LINE
SQUARE D COMPANY
For more details circle **NED-452 B9** on enclosed inquiry slip

Outstanding Accuracy

PALMER

MODEL 1035

DIAL THERMOMETER

FULL 3½" DIAL FACE

Check these functional features

- Direct-drive Bourdon Coil with a filled system for longer lasting accuracy.
- Stem can be placed at any desired angle and case can be rotated to most readable position.
- External calibration for zero setting.
- Unaffected by stem alignment.
- Accurate to one scale division.
- No sticking at any temperature.
- Non-corrosive case.

Find Your Palmer Representative in The "Yellow Pages"

Stem can be placed at any desired angle and case can be rotated to most readable position.

Write for Free Bulletin 1035 for complete description and prices.

PALMER THERMOMETERS, INC.
Mfrs. of Industrial Laboratory, Recording and Dial Thermometers
2515 Norwood Ave., Cincinnati 12, O.

▲ For more details circle NED-453 B9 on enclosed inquiry slip ▲

SONOCO PAPER CONES HAVE HUNDREDS OF USES!

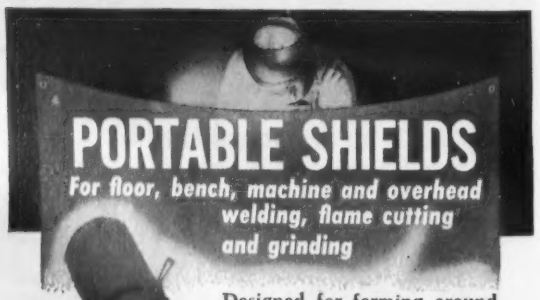
SONOCO can supply you with economical paper cones in practically any size—any taper—and in any quantity. These versatile cones have been the answer to many a need in production, packaging and in the toy and novelty field. They may be impregnated for strength, toughness and water resistance. Available plain or covered with novelty or trade-mark wrap; also in solid colored stock. Made to your specification. Write for full information and samples!

SONOCO
Paper Products

SONOCO PRODUCTS COMPANY
MAIN OFFICE — HARTSVILLE, S. C.
PLANTS FROM COAST TO COAST

1351

▲ For more details circle NED-454 B9 on enclosed inquiry slip ▲



PORTABLE SHIELDS

For floor, bench, machine and overhead welding, flame cutting and grinding

Designed for forming around the job. Self-supporting. Easily rolled up and carried. Durably constructed of flameproofed canvas over a flexible mesh frame. Broad range of sizes to meet your particular needs.

IPCO

INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

PORTABLE SPARK FLASH SHIELDS

INDUSTRIAL PRODUCTS COMPANY
2807 N. Fourth Street, Philadelphia 33, Pa.
Please send literature and price on Portable Shields.

NAME_____
TITLE_____
COMPANY_____
ADDRESS_____

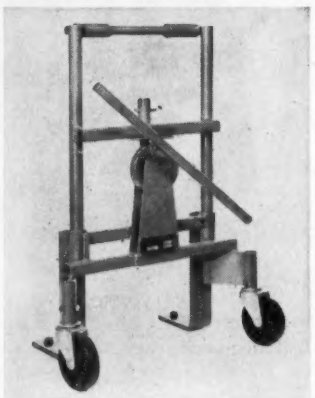
▲ For more details circle NED-455 B9 on enclosed inquiry slip ▲

ELECTRONIC COUNTER makes 12,000 counts per minute

Plug-in electronic decade is combined with a five-digit mechanical register in the Model 1000-B portable electronic counter, capable of making up to 12,000 counts per minute. Counting pulses may be from photoelectric cells, magnetic pickups, or contact closures. Input signals can be sinusoidal, rectangular, or slow-rising. The counter in its aluminum case weighs 7 lb. Accuracy is ±1 count. It will respond to electrical pulses with a peak amplitude of ±2½ v. Operating from 105 to 125 v ac, the counter contains an accessory power outlet of 90 v dc for photocells and other equipment. Made by **Performance Measurements Co.**, 15301 W. McNichols Rd., Detroit 35, Mich.

▲ For more details circle NED-456 B9 on enclosed inquiry slip ▲

PORTABLE LIFTERS used in pairs at each end of load



Pallets, crates, office equipment, and other loads weighing up to 500 lb are easily handled by the Model 500 Rol-A-Lift, a type of portable lift truck. Used in pairs, one at each end of the load, its forks are inserted under the load which is raised and locked by a mechanical lift. The load is then on wheels and can be pushed where desired. Units have a mechanical cam lift of 2¼ in. and forks have a 5-in. vertical adjustment in 1-in. increments. Fork width is 14 in. and fork length is 4½ in. Swiveling wheels with rubber tires permit close maneuvering. Other hydraulic Rol-A-Lift units have lift capacities up to 10,000 lb per pair. Made by **Skarnes Engineering & Supply, Inc.**, 2907 E. Franklin Ave., Minneapolis 6, Minn.

▲ For more details circle NED-457 B9 on enclosed inquiry slip ▲

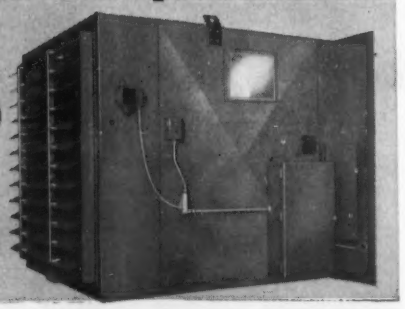
Hydraulic Weighing Systems

A. H. Emery Co.—"Plan-it-yourself" type Catalog 582 facilitates the application of Way-Pac hydraulic weighing systems to specific weighing jobs. It enables the prospective purchaser to price the installation before ordering. Both engineering and application data are included. A price list of components is a part of the catalog.

▲ For more details circle NED-458 B9 on enclosed inquiry slip ▲

draft-free comfort uniform temperatures

with new Aerovent



GAS FIRED

air make-up units

Temper and filter outside air entering work areas for better production; more efficient heating. Eliminate infiltration of cold air — equalize pressures. Supplied for natural, mixed, manufactured and propane gases. Sizes 36" to 54". Capacities 15,000 to 45,000 cfm with ratings to 4,500,000 btu. Other types for steam and hot water.

Write for Bulletins 850 and 870

CERTIFIED PERFORMANCE

Aerovent FAN CO INC.
Ash and Blake Sts. Piqua, Ohio

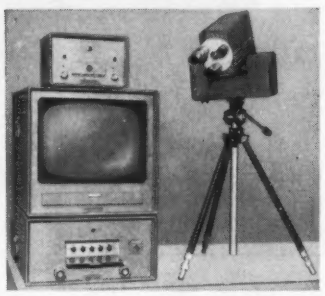
▲ For more details circle NED-459 B9 on enclosed inquiry slip ▲

How to get EYES in the Back of Your Head

...behind a machine, up on the third floor, in hazardous or hitherto impossible situations, underneath a locomotive, inside a combustion chamber, up on a roof, at a guard gate. These and many other problems can be solved with the versatile new

ITT **Closed Circuit TV Systems**

Feature a new improved vidicon camera with an entirely electronic light compensator (no moving parts), monitor, control unit, special housings. Cost is surprisingly low. Systems tailored to requirements. Bulletins and other data on request.



Industrial Products Division
INTERNATIONAL TELEPHONE AND TELEGRAPH CORP.
15191 Bledsoe Street, San Fernando, California — EMpire 7-6161

▲ For more details circle NED-460 B9 on enclosed inquiry slip ▲

Now... improved Sealtite E.F.

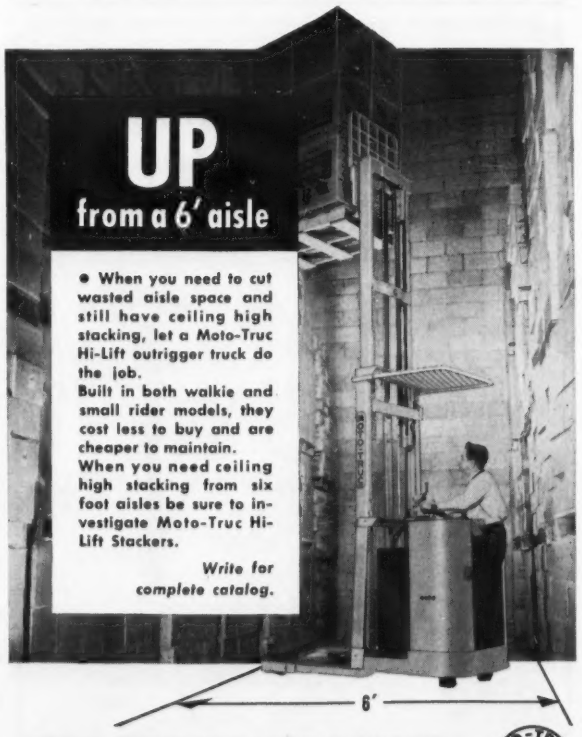
Sealtite type E.F.* — the original flexible, liquid-tight conduit, first to meet J.I.C. requirements — is now better than ever. New design has made it stronger, tougher, more durable in service . . . easier to install. Heavier extruded PVC jacket offers greater resistance to abrasion, cutting and tearing . . . greater oil resistance . . . greater holding power for fittings. It is more flexible — permits smaller bending diameters. New convenient markings save time, prevent waste. Length is indicated by arrows at 1-foot intervals. Trade size in inches is shown on cover. In black or gray. For free sample and more information, write: The American Brass Company, American Metal Hose Division, Waterbury 20, Conn.

*Pat. Applied For 57180 Rev.

SEALTITE® flexible, liquid-tight conduit

an ANACONDA® product

▲ For more details circle NED-461 B9 on enclosed inquiry slip ▲

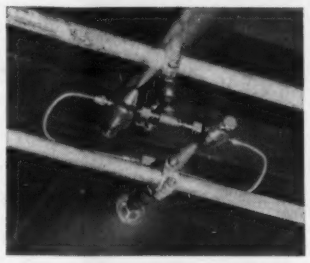


The MOTO-TRUC Co.
1961 E. 59th STREET • CLEVELAND 3, OHIO

▲ For more details circle NED-462 B9 on enclosed inquiry slip ▲

For more details circle NED-463 B9 on enclosed inquiry slip

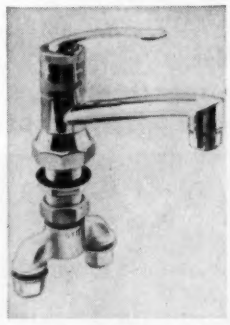
SPRAY ATOMIZER
for humidifying or cooling purposes



Straight humidification, evaporative cooling, and air conditioning are some of the functions served by this Amco Aero-Mizer water pressure type atomizer. System atomizes the water internally, using a minimum of compressed air and delivering a controlled vaporized mist. It has a bronze water nozzle, stainless steel cleaning wire, and a neoprene-coated nylon fabric control diaphragm. At each control operation, the cleaning wire clears the water jet. Capacities range from 6 to 15 lb of water per hr. Made by **American Moistening Co.**, Cleveland, N. C.

For more details circle NED-466 B9 on enclosed inquiry slip

MIXING FAUCET
single handle type is dripless



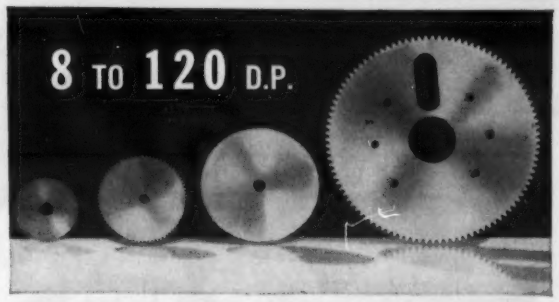
Single motion controls both the water volume and temperature delivered by the Gyro mixing faucet. Repeated on and off cycles do not affect the temperature setting. The faucet is dripless and has no washers, spindles, or seats to renew. Models with and without soap dishes, liquid soap dispensers, and a third water supply are offered, all made of chromed plated brass, bronze, and stainless steel. Made by **Gyro Brass Mfg. Corp.**, 51 Urban Ave., Westbury, L. I., N. Y.

For more details circle NED-467 B9 on enclosed inquiry slip

POWERED CONVEYOR TURNS
are fitted with speed reducers

Continuous beginning-to-end flow of products in conveyor systems is facilitated by series of Flo-master power turns available in 30 to 180-degree turn angles. Reducers regulate the speed in conjunction with installed systems. They are available for floor mounting, or with brackets for ceiling installation, as well as in the legged model shown. Rubber-covered duck, plain, treated canvas, or neoprene belts are offered. Made by **Central Conveyor Co.**, 575 Washington St., New York 14, N. Y.

For more details circle NED-468 B9 on enclosed inquiry slip



LONG LIST OF STOCK GEAR DIES OFFERS YOU BIG SAVINGS!

ACCURATE STAMPED GEARS by *WINZELER* are BIG savers of time and money. Single stampings are laminated to wide faces at savings up to 60%! Further economies are made possible by a BIG range of *stock* Dies. Modern new plant, methods, and equipment now greatly increase production speed, efficiency and *economy!* Send blue prints. Tell us about your needs today. No obligation.

SEND FOR...

New list of WINZELER-made stock Gear Dies. Ask for it on company letterhead, *please!*

WINZELER Stamped Gears

WINZELER MANUFACTURING & TOOL CO.
7355 W. WILSON AVENUE • CHICAGO 31, ILLINOIS

For more details circle NED-470 B9 on enclosed inquiry slip

SEAL RING PROBLEMS SOLVED!

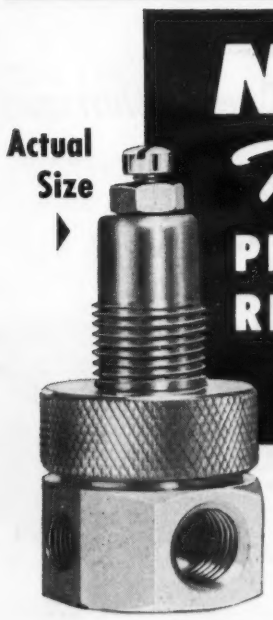
Molded from carbon-graphite materials, Stackpole mechanical seal rings (and mating members) are specifically "tailored" to exactly the right mix for your equipment and its operating conditions. Send details of your application for recommendation by Stackpole engineers.

STACKPOLE CARBON CO.
St. Marys, Pa.

STACKPOLE

"EVERYTHING IN CARBON BUT DIAMONDS"

For more details circle NED-464 B9 on enclosed inquiry slip



NEW! Norgren PRESSURE REGULATOR

for Air, Non-corrosive Gases and Liquids

Best performance of any regulator this small . . . at a low price!

If it's Norgren . . . It's Dependable.

WRITE FOR BROCHURE No. 914 C. A. NORGREN CO.

3405 SOUTH ELATI STREET ENGLEWOOD, COLORADO

For more details circle NED-465 B9 on enclosed inquiry slip

PARTS COSTS HIGH?

Shown 1/37 actual size

try HACKNEY deep drawn components

Why use components made with heavy castings, forgings or weldments? Hackney deep drawn shapes and shells may do the job better, at lower cost.

Hackney-made parts are strong, lightweight, seamless, uniform in dimensions. Can be made in steel, stainless steel, nickel, aluminum, magnesium, copper or alloy metals. Capacities: one quart to 100 gallons.

Design engineers are invited to send sketches of problems to our Engineering Department.

Hackney MILWAUKEE

Pressed Steel Tank Company
Manufacturer of Hackney Products
1450 S. 66th Street, Milwaukee 14, Wisconsin
Branch offices in principal cities

CONTAINERS AND PRESSURE VESSELS FOR GASES, LIQUIDS AND SOLIDS

For more details circle NED-469 B9 on enclosed inquiry slip

The Lepel line of induction heating equipment represents the most advanced thought in the field of electronics as well as the most practical and efficient source of heat yet developed for numerous industrial applications.

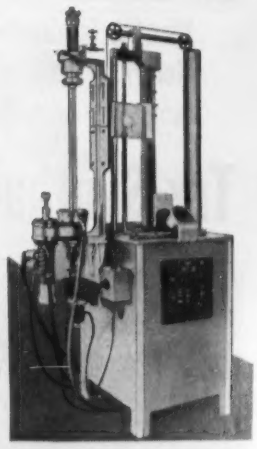
If you are interested in induction heating you are invited to send samples of the work with specifications. Our engineers will process and return the completed job with full data and recommendations without any cost or obligations.

FLOATING ZONE FIXTURE FOR METAL REFINING AND CRYSTAL GROWING

A new floating zone fixture for the production of ultra-high purity metals and semi-conductor materials. Purification or crystal growing is achieved by traversing a narrow molten zone along the length of the process bar while it is being supported vertically in vacuum or inert gas. Designed primarily for production purposes, Model HCP also provides great flexibility for laboratory studies.

Features

- A smooth, positive mechanical drive system with continuously variable up, down and rotational speeds, all independently controlled.
- An arrangement to rapidly center the process bar within a straight walled quartz tube supported between gas-tight, water-cooled end plates. Placement of the quartz tube is rather simple and adapters can be used to accomodate larger diameter tubes for larger process bars.
- Continuous water cooling for the outside of the quartz tube during operation.
- Assembly and dis-assemby of this system including removal of the completed process bar is simple and rapid.



Model HCP

Electronic Tube Generators from 1 kw to 100 kw.
Spark Gap Converters from 2 kw to 30 kw.

WRITE FOR THE NEW LEPEL CATALOG . . . 36 illustrated pages packed with valuable information.

All Lepel equipment is certified to comply with the requirements of the Federal Communications Commission.

LEPEL HIGH FREQUENCY LABORATORIES, INC.
55th STREET and 37th AVENUE, WOODSIDE 77, NEW YORK CITY, N. Y.

For more details circle NED-471 B9 on enclosed inquiry slip

"Been using Kester Solder for almost half a century, Tom. It's always fast and economical."

"When it comes to rigid alloy quality control, George, you have to hand it to Kester Solder."

"The Technical and Engineering Service at Kester is a great help in licking production problems, Bob."

SEND FOR "Solder . . . Its Fundamentals and Usage," the 78-page Kester textbook. It's free.

KESTER SOLDER

COMPANY 4249 Wrightwood Ave., Chicago 39, Ill.
Newark 5, N. J. • Brantford, Canada

▲ For more details circle NED-472 B9 on enclosed inquiry slip ▲

DIRT COSTS YOU

CLEAN UP WITH *Clayton* STEAM CLEANERS—*GET RID OF COSTLY DIRT AND GRIME!*

Hitch-hiking dirt is non-profit dead weight. Why haul it? Grime adds to friction, gums up lubrication. Why let it? Clayton-Kerrick Steam Cleaners, using balanced cleaning solution and high-impact, penetrate the most stubborn grime, remove the heaviest of dirt—equipment comes *clean* fast!

UNIVERSAL MODEL 120 ▶
Other Models, 60 to 600 gal. per hr.

CLAYTON-KERRICK SERVICE WARRANTY ASSURES LOWEST PER DAY EQUIPMENT COST!

The *best* actually costs you less because Clayton *guarantees* that at any time within 10 years for not more than 50% of the then current list price, you can exchange the entire machine or essential component assemblies* for factory rebuilt units with full new equipment warranty. Clayton even pays freight charges both ways on exchanged cleaners. *coil 65% of current list.

Clayton
MANUFACTURING COMPANY
Box 550, El Monte, California • Cincinnati, Ohio

▲ For more details circle NED-473 B9 on enclosed inquiry slip ▲

Want a laminated plastic with excellent electrical characteristics over a wide range of humidities and temperatures?

Try Synthane Glass Epoxy

Terminal board punched from Synthane Grade G-10 Glass Epoxy

A continuous filament woven glass fabric grade, impregnated with epoxy resin. This grade is particularly noted for its excellent electrical values. It possesses low moisture absorption, low dissipation factor and maintains these excellent electrical characteristics over a wide range of humidities and temperatures. This grade possesses good dimensional stability and excellent mechanical properties and is recommended for use at temperatures up to 300 deg. F. and is often used for printed circuit applications.

SYNTHANE

SYNTHANE CORPORATION
N.E. River Road, Oaks, Pa.

☐ Send me promptly information about Synthane G-10 laminated plastics

☐ I am interested in other Synthane Grades

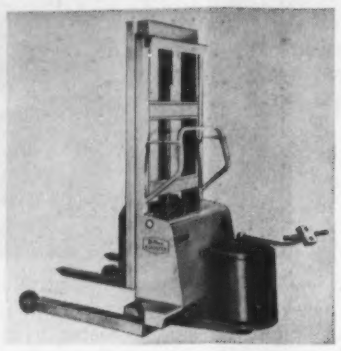
NAME_____

ADDRESS_____

CITY_____ ZONE_____ STATE_____

▲ For more details circle NED-474 B9 on enclosed inquiry slip ▲

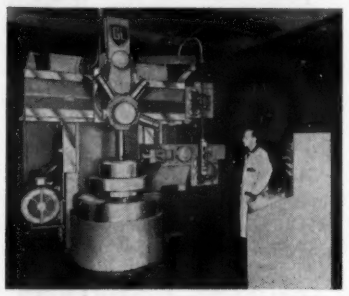
PORTABLE LIFT DRIVE
for manually propelled lifts



Electromechanical power drive unit with a 1-hp traction motor makes it possible to move manually propelled portable lifts faster and easier. It can be factory or field-installed using existing holes in any Hartman Booster or Oster 1000, 1250, or 2000-lb capacity model. Motor is connected through a centrifugal clutch, chain, and sprockets to a 9-in. diameter drive wheel. Forward and reverse buttons are located in the control arm. Mechanical brakes are automatically applied when the arm is released. Unit is powered by the 12-v system of the portable lift. Made by **Hartman Metal Fabricators, Inc.**, 133 Murray St., Rochester 6, N. Y.

▲ For more details circle NED-475 B9 on enclosed inquiry slip ▲

VERTICAL TURRET LATHE
tape control system speeds setup, allows faster operation between cuts



Quick setup, faster operation between cuts, higher cutting speeds, and consistent high quality of finished part results from the tape-controlled discrete positioning system featured by this vertical turret lathe. The system exercises complete control over feeds, speeds, turret indexing, automatic dwell, and coolant supply, as well as such auxiliary functions as constant cutting speed, thread cutting, drum scoring, cutting of tapers, and step turning.

An override adjustment allows operator to add his information to the data system in the form of fine adjustments to either height or radius. These adjustments, once made, automatically become part of the program. This makes it easy to hold critical workpiece dimensions by adjusting the controlled position of the cutting tools over a range of ±0.010 in. Setup time is reduced by many hours.

Lathes are available in 32, 42, and 52-in. diameter table sizes. Table base is integral with column to increase strength. The rigid "box" column will absorb heavy horizontal thrusts from the rail and side heads when using carbides or ceramics. Cutting speeds range up to 3000 sfpm. Made by **Giddings & Lewis Machine Tool Co.**, Fond du Lac, Wis.

▲ For more details circle NED-476 B9 on enclosed inquiry slip ▲

THE *Original* 4 POINT PUNCH **NYE**

KNOCKOUT PUNCH

Each punch ½" to 4" has the ORIGINAL 4-POINT cutting feature which takes the toil out of the job. Cuts clean, quick knockouts speedily, smoothly and burrless. Ball bearing chuck prevents friction. Hand or hydraulic.

Try a NYE and know the best. Order today.

NYE TOOL COMPANY
4126 WEST FULLERTON AVE., CHICAGO 39, ILLINOIS

▲ For more details circle NED-477 B9 on enclosed inquiry slip ▲

Plants everywhere re
big savings with

WORK-O-MATIC B

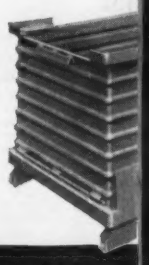
Look at these material handling features...

• **UNIT LOADS**...Transfer, storage, stacking, with fork trucks, just like regular skid boxes.

• **PRODUCTION**...Used with Work-O-Matic positioning stand for automatic work-level material flow. Eliminates tiring waste motion. Boosts production.

• **DUMPING**...Drop bottom feature discharges process material or scrap in nothing flat and with perfect spillage-point control!

You need the co
ciate the full exte
big! Units come
sizes for differen
Union Metal Ma
Canton 5, Ohio.



UNION ME
Material Handling Eq

▲ For more details circle NE

NEW! The BU

for the protection of soleno or small motors or control app on multi-circuit equipment

The BUSS Add-on fuse block makes it easy to protect equipment of any kind where a number of solenoids or motors are used.

Blocks are made up of single pole fuse blocks that interlock into a unit fuse block of any number of poles.

Poles may be added or removed . . . to either end of assembled fuse block. This makes it simple to have a fuse block of just the number of poles needed and to fit the block to available space.

Each fuse can be used as a circuit disconnect.

Specially designed fuse clips permit one end of fuse to be removed from clip and fuse raised to right angle to block where it is held firmly in position — see picture

When working on machine this makes it quick to identify circuit that is open — and it assures that proper fuse will be put back in right circuit.

BUSSMANN MFG. DIVISION *McGraw-Edison Co.*
University at Jefferson, St. Louis 7, Mo.

BUSS makes a complete line of fuses for home, farm, commercial,

▲ For more details circle NE

The Authorized

Spherical, Cylindrical, Ball, and Timken *Tapered Roll*

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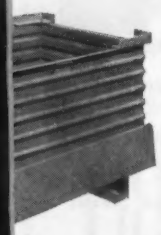
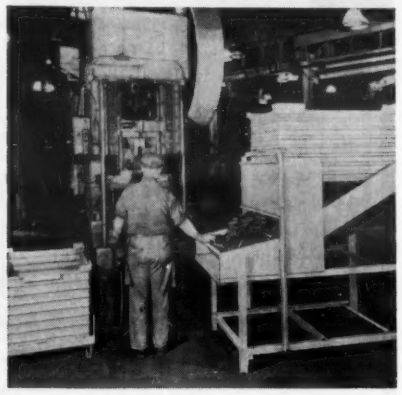
XES!

ete story to appre-
of savings. They're
various types and
eeds. Write to The
acturing Company,





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8 B9 on enclosed inquiry slip ▲

SS Add-on Fuse Block

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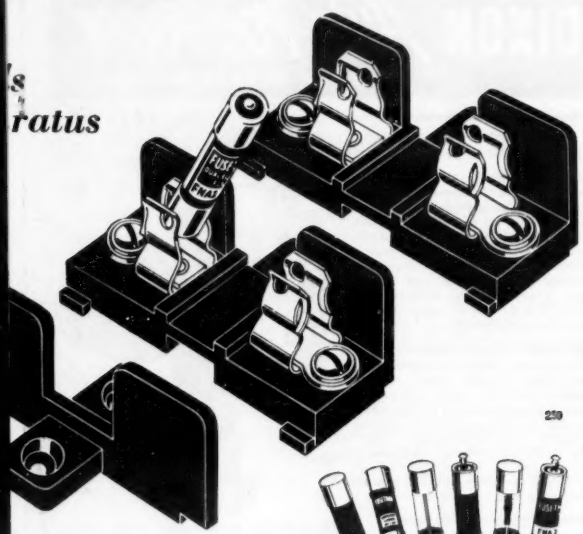


Write for BUSS Bulletin BL-1.
SS and FUSETRON fuses are avail-
to fit these fuse blocks in ampere
up to 30 and for voltages up to 250.
for BUSS Bulletin SFB.

FUSETRON TRUSTWORTHY NAMES IN ELECTRICAL PROTECTION BUSS McGRAW EDISON

tronic, automotive and industrial use.

9 B9 on enclosed inquiry slip ▲

SKF Distributor
always knows
his bearings

He's a specialist on bearing types, numbers, sizes and variations. So, he can help you put the right bearing in the right place. And because he carries SKF's diversified line, he can give you in-stock delivery of almost any bearing. Ask him about these services today.

5904

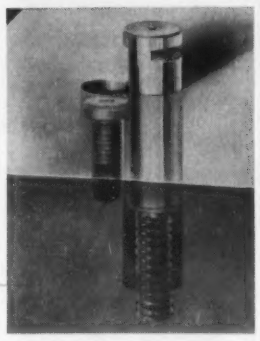
earings

EVERY TYPE—EVERY USE
SKF®
SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.

*REG. U. S. PAT. OFF.

0 B9 on enclosed inquiry slip ▲

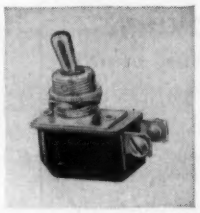
STANDARD STOCK LIFTERS
handle up to 3/32 in. stock



Builders of progressive dies can install ready-made stock lifters simply by drilling two holes and tapping one for a retaining screw. Lifter and its spring is dropped into one hole and secured with a socket head retaining screw in the tapped hole. Broken spring or lifter can be replaced quickly without removing the die from the press. Kenville stock lifters are available in three styles to handle stock up to 3/32 in. thick. Cost ranges from $3.97 to $5.63 each. Made by **Detroit Die Set Corp.**, 2895 W. Grand Blvd., Detroit 2, Mich.

▲ For more details circle **NED-481 B9** on enclosed inquiry slip ▲

TOGGLE SWITCH
single-pole single-throw type



Fractional horsepower motors, small appliances, and electronic circuits are applications for the Series 1500 general purpose toggle switch. The small, compact unit is rated at 3 amp, 250 v or 6 amp, 125 v. It has quick-make quick-break wiping contacts and is available in single-pole single-throw type in two bushing lengths, with wire leads, screw terminals, solder lugs, or quick-disconnect tabs. Switch is UL and CSA approved. Made by **Sargent Electric Corp.**, 630 Merrick Rd., Lynbrook, N. Y.

▲ For more details circle **NED-482 B9** on enclosed inquiry slip ▲

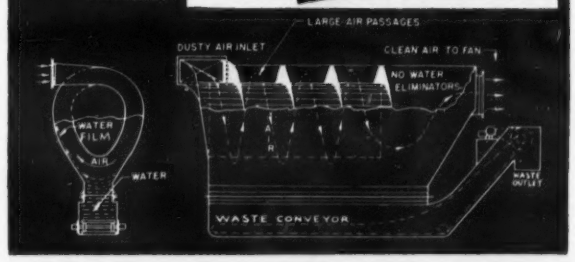
SEPARATOR UNIT
screens parts and abrasive media

Effective screening and separation of barrel-finished parts and abrasive media by this separator is achieved by a vibrating unit which imparts high frequency, low amplitude vibrations to the screening mechanism. Unit has an 18 x 48-in. screening surface and readily adapts to handling of all standard screen mesh sizes. It is powered by 220/440-v, three-phase ac motor with nonreversing pushbutton controls and is equipped with three screens for most standard operations. Unit is completely shock mounted. Made by **Roto-Finish Co.**, 3700 Milham Rd., Kalamazoo, Mich.

▲ For more details circle **NED-483 B9** on enclosed inquiry slip ▲

The MASTER of DUST in INDUSTRY

IS THE . . . . Air Tumbler



SIMPLE—DEPENDABLE—NO FIRE HAZARD
HIGH EFFICIENCY—CONSTANT CAPACITY
LOW HUMIDIFICATION—LOW OPERATING COST

More than one million CFM in ONE plant

Write for Bulletin No. 581. Address:

DUST SUPPRESSION & ENGINEERING CO.
P. O. BOX 67 • LAKE ORION, MICHIGAN

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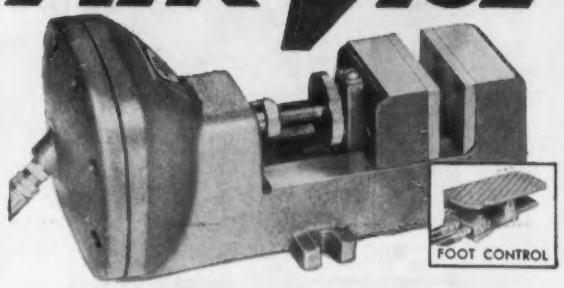
Speedy AIR VISE



HIGH SPEED • POWERFUL GRIP

New, improved model speeds up all repeat operations—*milling, drilling, tapping, punching, bending, riveting.* Both hands left free to produce more! Light squeeze to 2250 pounds pressure! Extra thick jaws for attaching jigs. Jaws open to 3-inches; 1/16" to 5/8" maximum travel. Complete with foot control, air hose and fittings..... **$44.00**

SPEEDY AIR REGULATOR
Regulates pressures 0 to 140 lbs.
No. 622 $7.25

SPEEDY AIR FILTER
Assures clean, oil-free air.
No. 140 $4.00

SPEEDY UNIT
Production spray unit with Ext. Mix Gun.
No. 705
$26.50

Order from Your Supplier or Write for Air Tool Catalog
W. R. BROWN CORP., 2647 N. Normandy Ave., Chicago 35

AIR TOOLS • AIR VISES • AIR REGULATORS • FILTERS • COMPRESSORS

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SOLVE ROTARY MOTION PROBLEMS

CARTER ROTARY ACTUATOR

UP TO 370° ROTATION
0-100 0-190 0-280 0-370
as standard

- SAFE, LEAKPROOF PERFORMANCE
- BUILT IN CUSHIONS
- OIL, AIR, WATER OR GAS
- Transfer Mechanisms
- Indexing
- Positioning
- Valve Operation
- Cam Actions

SEND FOR NEW BULLETIN RA-500 Complete Details and specifications. All essential design data. Send today!

CARTER CONTROLS, INCORPORATED
2876 Bernice Road, Lansing, Ill.
Phones: Lansing—GRanite 4-3305 • Chicago—BAyport 1-7188

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NEW!

2½-lb. Pressurized Dry Chemical

5-lb. Pressurized Dry Chemical

Kidde dry chemicals kill more fire faster!

Granted top rating by Underwriters' Laboratories – pack an extra punch – put out as much fire as eight and sixteen one quart CTC portables respectively. Perfectly balanced, light in weight, easy to operate, no pin to remove, no valves to turn, no inverting or bumping needed. Just aim and press lever! No pressure cartridge needed. Write for more information today!

Kidde
Walter Kidde & Company, Inc.
224 Main St., Belleville, N. J.
Walter Kidde & Company of Canada Ltd.
Montreal—Toronto—Vancouver

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TRIAL SAMPLE

Of World-Famous WHITMORE'S Lubricants NOW IN AEROSOL SPRAY-ON CANS!

WIRE ROPE SPRAY LUBRICANT

Exclusive formulas for lubricating and protecting wire rope, chain, springs. Penetrates to the core of wire rope minimizing internal friction and increasing usable life up to 300% —special protective qualities absolutely eliminate corrosion—non-gumming qualities reduce "carry-back"—packaged in handy 16 oz. aerosol spray-on containers or in bulk containers—send for a free trial sample.

65 YEARS OF LEADERSHIP LUBRICATING THE FOLLOWING:

- Open Gears, Dipper Sticks, Cams
- Hydraulic Units, Torque Converters
- Speed Reducers
- Enclosed Gear Cases
- Roller, Ball, and Sleeve Bearings
- Wire Rope and Cable

Est. 1893

THE WHITMORE MANUFACTURING CO.
LUBRICATING ENGINEERS
CLEVELAND 4, OHIO, • VULCAN 3-7272

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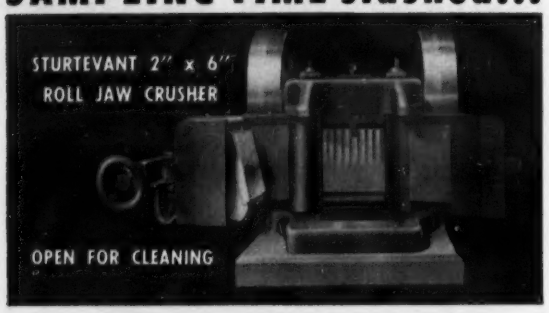
SAMPLING TIME slashed...



... by Small-Scale Duplication of Full-Scale Production!

12-PAGE BULLETIN PROVES IT!

SEE how exclusive "OPEN-DOOR" design makes cleaning and maintenance quick and easy . . . how rugged construction keeps equipment running round the clock for years.

COMPARE the capacities and performance of Sturtevant Roll Jaw Crusher, Crushing Rolls, Swing Sledge Mills and Sample Grinder with what you are now using.

LEARN why the "blue chips" in industry and education prefer Sturtevant Laboratory Equipment.

WRITE FOR 12-PAGE BULLETIN on Sturtevant Laboratory Equipment and other custom-built equipment listed below. STURTEVANT MILL CO., 114 CLAYTON ST., BOSTON 22, MASS.

STURTEVANT
Dry Processing Equipment

The "OPEN-DOOR" to lower operating costs over more years

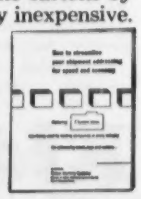
CRUSHERS • GRINDERS • MICRON-GRINDERS • SEPARATORS
BLENDERS • GRANULATORS • CONVEYORS • ELEVATORS

For more details circle NED-490 B9 on enclosed inquiry slip

Fastest way to address cartons

Here's a way to address cartons that puts less modern methods to shame. Inexpensive, paper stencil is cut on a typewriter—separately or as by-product of shipping paper-work. It's then attached to small handprinter to imprint addresses directly on containers within "label frames" that have been pre-printed on the cartons by the carton manufacturer. Fast, clean, very inexpensive.

1 of 7 shipment addressing ideas described in new 16-page booklet. Send for free copy

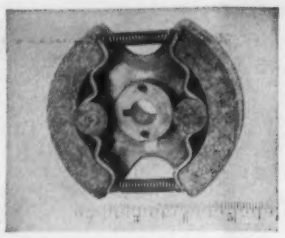


Weber

Weber Marking Systems
Div. of Weber Addressing Machine Co., Inc.
Dept. 25-B
Weber Industrial Park
Mount Prospect, Illinois

For more details circle NED-491 B9 on enclosed inquiry slip

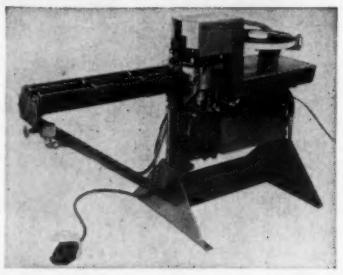
CENTRIFUGAL CLUTCH cam-type affords quick release



Moderate camming or locking-in action of the F-M centrifugal clutch enables it to disengage at about the same speed with which it engages, with or without load. It affords quick release and is well suited for electric motors or gasoline engine applications where gradual engagement is required, or in operations starting from high inertia. Clutch reduces the demand for starting current since motor is never called upon to deliver power below its maximum torque speed. Where constant loading of engines is not desired, clutch provides no-load starting and idling. Clutch is offered in 1 to 30 lb-ft capacities, for 1200 to 3600 rpm speeds. It has 4¼-in. OD, with 7/16 to 1-in. bores, and can be adapted to pulley, sprocket, gear, or coupling-type drives. Made by **Fairbanks, Morse & Co.**, Magneto Div., Beloit, Wis.

For more details circle NED-492 B9 on enclosed inquiry slip

POWER STRAPPING MACHINE for all sizes of packages, bundles



Unlimited strap feed and take-up of the Model F4 strapping machine eliminate maximum package and bundle size limitations. Each strap is applied with the same tension, which can be adjusted. The electrical and pneumatic machine uses seals fed from coils holding 3000 to 5000 seals, depending on the size of steel strapping used. Length of strap to be fed can be adjusted with a dial, and additional length may be fed by a foot-operated switch. Machine fits into conveyor lines flowing in either direction. Made to apply strap in one width, it is available for ⅜, ½, ⅝, and ¾-in. strap of any gage from 0.015 to 0.023 in. Multiple machines can be positioned for simultaneous application of any required number of straps. Made by **Acme Steel Co.**, 135th Street & Perry Avenue, Chicago 27, Ill.

For more details circle NED-493 B9 on enclosed inquiry slip

Rims, Wheels & Accessories

Goodyear Tire & Rubber Co.—94-page multipurpose catalog S-8811 on rims, wheels, tools, and rim accessories presents information on rim research, step-by-step rim mounting procedures, and instructions for using hydraulic tools. Tubeless truck rims, tube-type light to heavy-duty rims, rims for earthmoving and construction equipment, and agriculture equipment rims are covered.

For more details circle NED-494 B9 on enclosed inquiry slip

• Centerless Ground to extreme accuracy. Special new-type Equipment, assures concentric chamfered or formed ends—no cut-off burrs.

Dowel—Straight—Countersunk—Angle and Spherical Ends
.020" to .1875" Diam.
.125" to 2" Length

Precise Specifications
Accurately met. If requested on order, a surface analysis tape, showing surface in micro-inch measurements, will be furnished. Tape magnifies 39,370 times.

Small orders or volume production to your exact requirements and material specifications.

Quality Precision Work!
Prompt Deliveries!
Prices you will like!
SEND US PRINTS FOR QUOTATION

COMMERCIAL CENTERLESS GRINDING COMPANY
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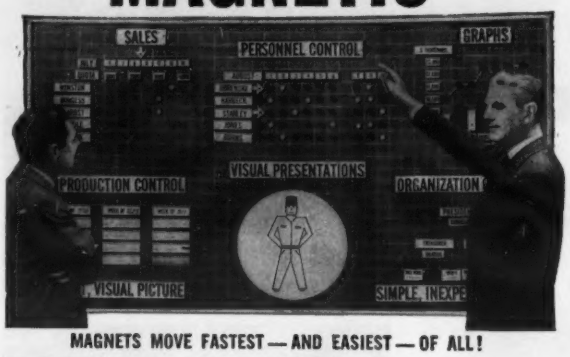
VISUAL MAGNETIC CONTROL



MAGNETS MOVE FASTEST—AND EASIEST—OF ALL!

SIMPLEST VISUAL SYSTEM FOR
- Production
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- Maintenance
- Scheduling
- Machine Loading
- Charts—Graphs
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COLORFUL MAGNETIC ELEMENTS
- show facts instantly
- organize for action
- eliminate mistakes
- get the job done

PRICED FROM **$38** INCLUDING MAGNETIC ELEMENTS

PRICE LIST & BROCHURE NE2 **FREE** ON REQUEST

REPRESENTATION DESIRED IN SOME AREAS

Methods Research Corp.
442 Mosel Avenue, Staten Island 4, New York

For more details circle NED-496 B9 on enclosed inquiry slip

FOR TIMESAVING ASSEMBLY OF SMALL PARTS . . .

DIXON *Auto-Positioner*

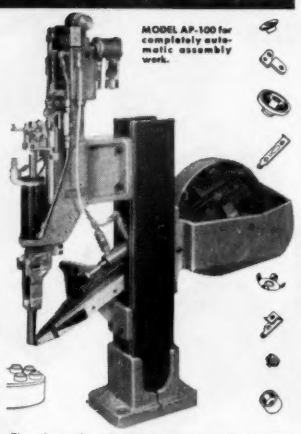
IN FOUR STANDARD MODELS

- ***New Positive-Acting Feeder***
- ***Automatic Sensing Device***
- ***Easy to Install — Simple to Operate***

The Dixon Auto-Positioner is a compact, air-operated automatic assembly machine for parts from 1/16" to 2" size at speeds up to 6000 cycles per hour. It is furnished as a fully automatic station for use at a dial or in-line transfer table, or as a self-contained machine with pedestal and fixture table. There are four models, providing a selection of equipment to suit your requirements.

Dependable, Accurate, Compact
The new parts feeder is simple, compact (only 6 inches wide), and efficient. It provides positive advancement of the part into the chuck; it has a straight track and a positive-acting escapement; and it requires no separate motor or vibrator. Automatic sensing assures quality control. It interrupts the cycle when a part is missing or improperly assembled.

Standard Equipment, Easily Retooled
The chuck, positioning punch, and feeder tooling are easily modified or replaced for other jobs. Compactness permits close nesting at multiple stations, cutting cost of fixtures, dials, or transfer devices.



MODEL AP-100 for completely automatic assembly work.

The above Auto-Positioner was tooled to feed and place the .455" diameter formed washer into a cup (shown to the right) having .001" clearance.

Send for Bulletin AP-B2 or request our machine planning service.

DIXON **DIXON AUTOMATIC TOOL, INC.**
2302-23rd AVENUE • ROCKFORD, ILLINOIS

EQUIPMENT FOR AUTOMATIC PARTS HANDLING AND ASSEMBLY

For more details circle NED-497 B9 on enclosed inquiry slip

GAUGES

NOW COMPLETELY CATALOGED WITH ENGINEERING DATA

FOR PROCESS & POWER INSTRUMENTATION

IN PLANT & O.E.M.

KUNKLE GAUGES

Complete, broad range line makes gauge application-specification easy with assured results backed by 50 years of gauge manufacturing experience.

Ranges from 15 p.s.i., or 30" of vacuum, to 20,000 p.s.i.
Bourdon tubes of bronze, drawn or bored s/s, and other alloys

YOUR COPY SHOWING NEW GAUGES AND SPEC. DATA NOW AVAILABLE WRITE:

By the makers of dependable Kunkle Valves
KUNKLE VALVE CO. • FT. WAYNE, IND.

For more details circle NED-498 B9 on enclosed inquiry slip

32 pages describe Hannifin STANDARD 5,000 P.S.I. hydraulic components

...find out about Hannifin "Hy-Power"!

Find out about standard Hannifin 5,000 p.s.i. components, thoroughly proved, available today. Bulletin 150-A lists Hannifin 5,000 p.s.i. "Hy-Power" cylinders for actuation by Hannifin's exclusive, patented "Hy-Power" hydraulic pressure generator, sold as a packaged power unit, with 1,000 p.s.i. pumping and valving, 5,000 p.s.i. output. Fully automatic. Ideal where maximum force must be made available in minimum space. Write for your copy.

HANNIFIN COMPANY
527 South Wolf Road • Des Plaines, Illinois
A DIVISION OF PARKER-HANNIFIN CORPORATION

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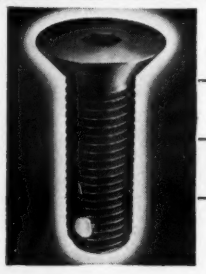


Increase the reliability of thin-section assemblies with Self-Locking UNBRAKO Flat Head Socket Screws

An UNBRAKO with Nylok* is a simple, practical means to greater fastener reliability. Unlike ordinary threaded fasteners, it will not work loose—eliminates a common cause of breakdowns and customer complaints. This 1-piece, self-locking unit requires no auxiliary devices, takes no extra time or labor to install. The tough, resilient nylon pellet forces mating threads together—locks the screw securely at any point, whether seated or not.

See your authorized UNBRAKO industrial distributor for details—he carries a full line of self-locking UNBRAKO products. Or write us for literature and samples. Unbrako Socket Screw Division, STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

*T.M. Reg. U.S. Pat. Off., The Nylok Corporation

We also manufacture precision titanium fasteners / *write for free booklet*

SPS Jenkintown • Pennsylvania
Standard Pressed Steel Co. • The Cleveland Cap Screw Co. • Columbia Steel Equipment Co. • National Machine Products Co. • Nutt-Shel Co. • SPS Western • Standco Canada Ltd. • Unbrako Socket Screw Co., Ltd.

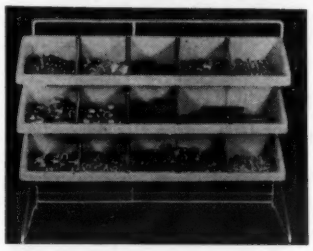
▲ For more details circle **NED-500 B9** on enclosed inquiry slip ▲

FLOOR SCRUBBER-POLISHER
easily carried up and down stairs

Designed for use on areas up to 3000 sq ft, the Port-Able Model 13 floor machine economically scrubs and polishes. Weighing only 43 lb, it can be pulled or carried up and down stairs with ease. Wheels are positioned for maneuverability and the adjustable handle rotates in a 90-degree arc. Machine is powered by a 1/3-hp motor and has a 13-in. brush and a cord-carrying device on the handle. Price is $159.50. Made by **National Super Service Co.**, Toledo Factories Bldg., Toledo 2, Ohio.

▲ For more details circle **NED-502 B9** on enclosed inquiry slip ▲

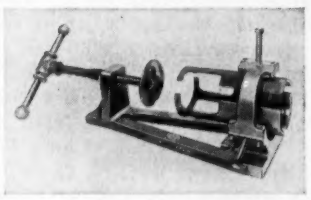
PARTS STORAGE CUPS
20-in. unit can be compartmented



Convenient storage of small parts for assembly line production is provided by the 20 x 4 x 4-in. Duro Parts Cup. Made of one-piece U. S. Royalite thermoplastic, the container can be divided lengthwise into from two to five compartments. Dividers are inserted into spaced grooves within the cup. Special racks are available for holding these parts cups. Made by **Hollywood Plastic Arts, Inc.**, 515 E. Ninth St., Los Angeles 15, Calif.

▲ For more details circle **NED-503 B9** on enclosed inquiry slip ▲

HOSE COUPLING PRESS
installs couplings in 3-in. hoses



Installing couplings in fluid carrying hoses up to 3-in. diameter is made easy with the Model 890 hose coupling press. It consists of a base, screw, centering plate, adjustable serrated hose jaws, guide pins, and centering screws. Hose is first inserted and centered within the jaws, then screw is turned until centering plate touches the coupling to assure alignment. Continued turning transmits sufficient linear pressure to press the coupling into the hose with little physical effort. Press is portable and is used without clamps or hold down devices. Bolt slots are provided for permanent mounting. Made by **Universal Valve Co.**, 269 South St., Elizabeth, N. J.

▲ For more details circle **NED-504 B9** on enclosed inquiry slip ▲

NEW and needed
JUNIOR CYCLONE DUSKOLECTOR by Hammond

Model JCB-4 is easy to install and can be mounted on casters for portability.

The NEW Hammond Junior Cyclone DusKolector provides a low-cost means of collecting dust from light and medium dust sources. It also fits in where filter dust collectors have not been satisfactory.

Built to usual Hammond standards, it has the same features as the larger Cyclone DusKolectors. Blower wheel is *self-cleaning paddle type, dynamically balanced* and mounted on the *exhaust*, not the inlet side. Bag has *zipper* for quick cleaning. Two sizes available, giving 400 or 600 CFM.

Where to use Cyclone DusKolectors — machine shops and tool rooms for collecting cast iron dust from mills, lathes, surface grinders, tool and cutter grinders, internal grinders, etc. Polishing and buffing departments, crating rooms, grinding departments and other dust producing sources.

Hammond DusKolectors Don't Cost, They Pay — by providing healthier working conditions, protecting costly machine tools and reducing cleaning and painting costs.

Write for Catalog

Hammond Machinery Builders INC
1623 DOUGLAS AVENUE • KALAMAZOO, MICHIGAN

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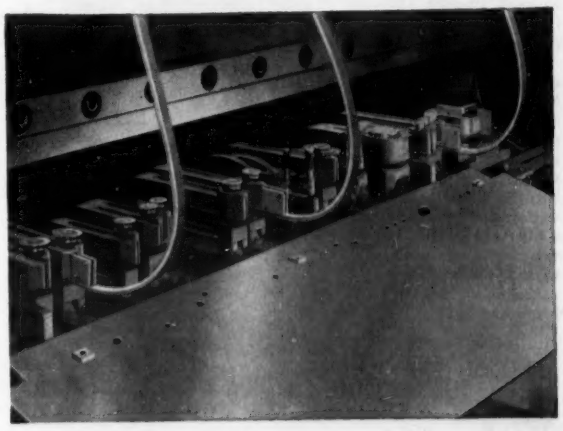
NEW STRIPPIT UNITS
...stake nuts permanently with every press stroke!



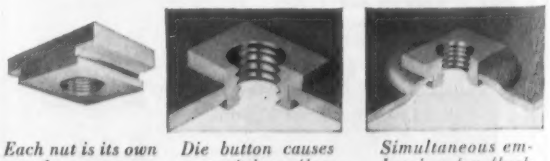
STRIPPIT PIERCE NUT UNITS save operations, time and money in assembly panel production with single-stroke insertion of Fabristeel Multipierce Nuts* into sheet metal up to .125" thick.

Permanent Fastening by an Exclusive New Process — as nut pierces stock, metal flows into nut shoulder slot, becoming an integral part of the stock.

High-Speed — fast press setups, automatic feed of nuts to units for long, medium or short runs gets maximum production per press.

Flexibility — Pierce Nut Units can be quickly press-mounted in any desired pattern, changed on short notice, re-used over and over.

**A Product of Fabristeel Products, Inc.*



Each nut is its own punch, a new one each time — *Die button causes material to flow into nut slot* — *Simultaneous embossing for flush fastening*

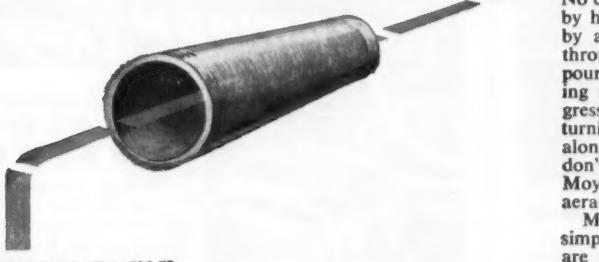
WRITE FOR DEMONSTRATION on your press! The speed and simplicity of Strippit Pierce Nut operation has to be seen to be believed. Also request new catalog for complete specifications.

WALES STRIPPIT INC. HOUDAILLE INDUSTRIES, INC.
227 Buell Road, Akron, New York

In Canada: Strippit Tool & Machine Company, Brampton, Ont.

▲ For more details circle **NED-506 B9** on enclosed inquiry slip ▲

if it can be pushed through a pipe...



you can pump it with a

MOYNO®

No doubt, in your plant, certain materials are being moved by hand expensively that could be pumped economically by a Moyno. They pump anything that can be forced through a pipe . . . from very thin liquids to heavy, non-pourable abrasive substances . . . even materials containing suspended particles! As the illustration shows, progressing cavities, formed by the helical screw-like rotor turning inside the double-helical stator, move smoothly along, carrying the material with them . . . the cavities don't squeeze the substance . . . can't stick or gum up. Moyno pumps will not cause churning, foaming . . . won't aerate or vapor-lock!

Moynos are adaptable for a wide range of substances simply by modifying the materials the pumping elements are made of. They are available to pull up to 29" of vacuum while discharging under pressure. If you have a pumping problem, chances are a Moyno will solve it!

Look in the yellow pages for the name of your nearest R & M Moyno Pump representative, or write today, for Bulletin 30-NE.

Industrial type Moyno . . . available to 500 gpm, pressures to 1000 psi

ROBBINS & MYERS, INC.
SPRINGFIELD, OHIO / BRANTFORD, ONTARIO

Motors · Fans · Hoists · Moyno® Pumps · Propeller® Industrial Fans

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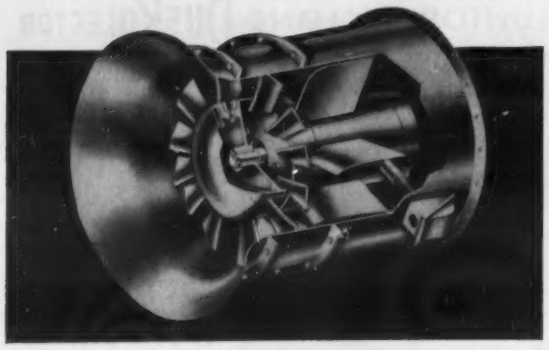
SAVE SPACE... JOY FAN BLADES ADJUST TO THE JOB



The motor is inside the fan structure . . . the entire assembly mounts as a section of existing duct work. No foundations, offsets, drives or guards to waste space. Joy Axivane® Fan blades can be adjusted on the job to vary pressure or volume.

WSW I 6939-210

Find Out More about Joy High-Performance Fans . . . Get FREE BULLETIN 210-54

JOY MANUFACTURING COMPANY
Oliver Building, Pittsburgh 22, Pa.
In Canada: Joy Manufacturing Company (Canada) Limited, Galt, Ontario

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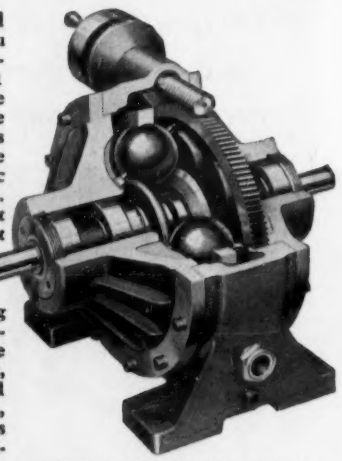
Get infinitely variable speeds with smooth, instant change

CLEVELAND Speed Variator gives you infinitely variable, stepless speeds up to 9:1 (from ⅓ to 3 times the input speed). Simple speed regulation gives instant, smooth change by manual, automatic or remote control. Available with constant torque or constant horsepower rating. No belts or complicated linkage. Ample bearing support to carry overhung pulleys. Simple construction, compact, quiet running. Ideal where dependable, variable speed drive is required. Write for Bulletin K-200.



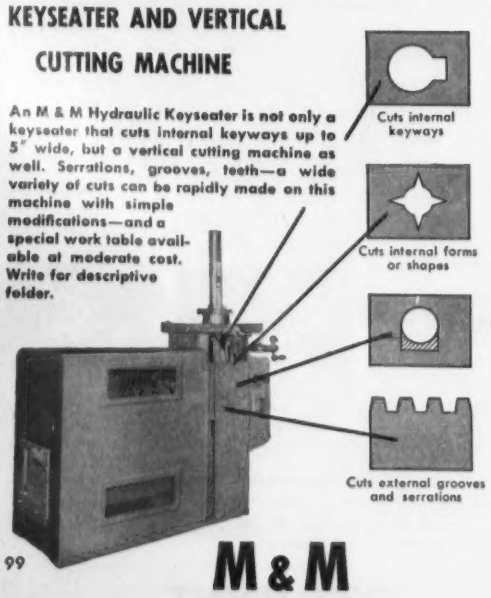
NOW available in 18 sizes, ranging from one-half to 16 horsepower at 1750 input RPM.

THE CLEVELAND WORM & GEAR COMPANY
Speed Variator Division, 3283 E. 80th St., Cleveland 4, O.
Sales Representatives in all major industrial markets

▲ For more details circle NED-508 B9 on enclosed inquiry slip ▲

TRIPLE THE USEFULNESS OF YOUR M&M KEYSEATER AND VERTICAL CUTTING MACHINE

An M & M Hydraulic Keyseater is not only a keyseater that cuts internal keyways up to 5" wide, but a vertical cutting machine as well. Serrations, grooves, teeth—a wide variety of cuts can be rapidly made on this machine with simple modifications—and a special work table available at moderate cost. Write for descriptive folder.



99

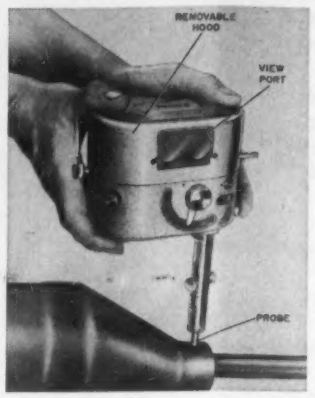
M&M

KEYSEATERS AND VERTICAL CUTTING MACHINES

MITTS & MERRILL • 1000 So. Water St. • SAGINAW, MICH.

▲ For more details circle NED-509 B9 on enclosed inquiry slip ▲

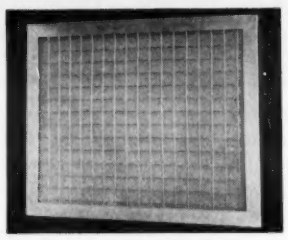
VIBRATION METER measures and records on tape



Frequency, amplitude, and wave form of vibrations and other mechanical motions are magnified and permanently recorded by the Korfund Hand Vibrograph. Weighing less than 5 lb, the compact instrument makes both ink and waxed paper recording on 1-in. wide tape, and has a tape take-up reel for storing of readings. Variable tape speed simplifies reading of high frequency recordings. Readings establish the amount of wear in bearings or cutting tools, measure the speed of rotating equipment, and aid in equipment balancing. Frequency range is 0 to 20,000 cpm, amplitude range is 0.0004 to 0.800 in., and magnifications are 2, 4, 5, 10, and 20 times. Running time for the 350-in. long tape is 1½ to 4½ min. Price is $475. Made by **Korfund Co.**, 48-19H 32nd Place, Long Island City 1, N. Y.

▲ For more details circle NED-510 B9 on enclosed inquiry slip ▲

PLASTIC AIR FILTER has plastic foam filter medium



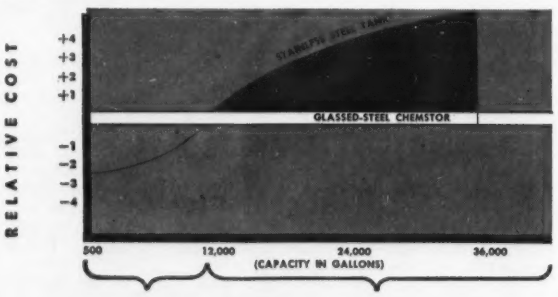
Open-cell plastic foam material used as filter medium in this Microfoam air filter causes high turbulence of air flow, even at low velocities. Filter can be used either as a dry or viscous impingement filter, depending upon dirt conditions. Filter is framed in heavy aluminized steel and supported by galvanized 1 x 1-in. mesh wire. Media resists water, brines, soaps, detergents, oil, solvents, greases, and weak acids. Vinyl-coated foam is available for resistance to strong acids and alkalies. Filters operate at 300 to 800 fpm velocities and are made in 16 x 20, 16 x 25, 20 x 20, and 20 x 25-in. sizes in 1 and 2-in. widths. They can be cleaned by flushing with water and used with spray-applied adhesives. Made by **Microtron Corp.**, Dept. MF-1, 2136 South Blvd., Charlotte 1, N. C.

▲ For more details circle NED-511 B9 on enclosed inquiry slip ▲

Open-Back Inclinable Presses

Federal Press Co.—Each of the 22 models of open-back, inclinable presses illustrated in 20-page Catalog 1014 has either a gear or flywheel drive. An air clutch is also optional. Presses range from 7 to 100-ton capacities. Specifications on all models, and a graphic description of Federal engineering features are highlighted.

▲ For more details circle NED-512 B9 on enclosed inquiry slip ▲



Large Glasteel storage tanks cost less than stainless steel

Hard-to-store chemicals, in quantities of 10,000 gallons and over, cost less to store when you store them in Glasteel Chemstor tanks.

Save on Initial Costs. When you get in the 30,000 gallon range, for instance, the initial cost of Chemstor tanks is actually about half as much as comparable stainless steel tanks.

Save on Storage Handling Costs. You can stop worrying about corrosion and contamination losses, because the stored product touches only chemically inert glass. Glass is easy to clean and keep clean, too. Its *naturally* smooth surface discourages clinging, scale, and product build-up.

For details, ask for Bulletin No. 918.

PFAUDLER PERMUTIT INC.
Pfaudler Div. • Dept. NED-29 • Rochester 3, N. Y.

75 YEARS CREATING FOR TOMORROW Pfaudler

▲ For more details circle NED-513 B9 on enclosed inquiry slip ▲

Permanently End Condensation Drip, Rust and Corrosion with NoDrip Plastic Coating!

Here is the inexpensive, easy way to solve your condensation problem once and for all. NoDrip plastic coating acts immediately to insulate and protect tanks, pipes, walls, ceilings, air ducts and other metal equipment against condensation drip, rust and corrosion. NoDrip can be applied by anyone without special experience with brush, trowel or spray. NoDrip is also resistant to acid, alkali and brine . . . protects concrete, brick, plaster, tile, wood or composition surfaces.

FREE

32-PAGE NoDrip DATA HANDBOOK

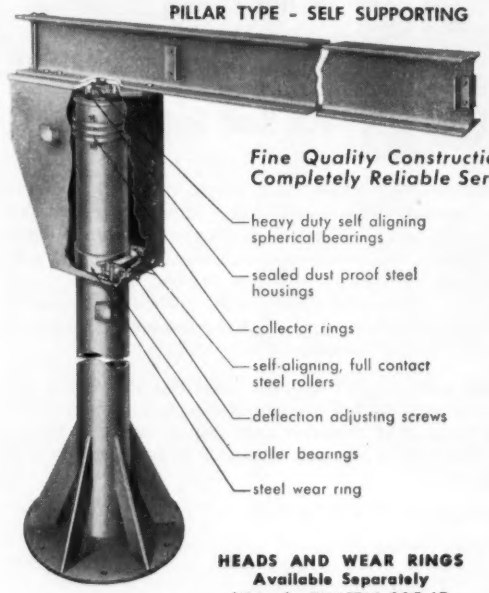
Complete with photographs, charts and technical information to help solve your condensation problem. Write today!

Available at leading plumbing and mill supply houses
J. W. MORTELL COMPANY 526 Burch St., Kankakee, Ill

▲ For more details circle NED-514 B9 on enclosed inquiry slip ▲

David Round

Jib Cranes
SERIES 300
PILLAR TYPE - SELF SUPPORTING



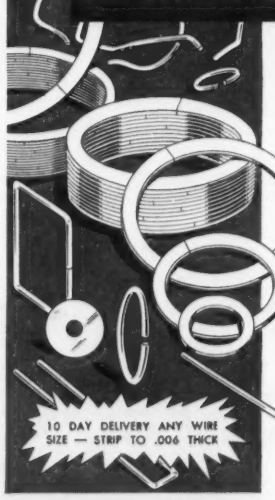
HEADS AND WEAR RINGS Available Separately
Write for BULLETIN 225-JC

DR

DAVID ROUND & SON, INC., CLEVELAND 22, OHIO

▲ For more details circle NED-515 B9 on enclosed inquiry slip ▲

ALUMINUM Brazing?



LUCAS-MILHAUPT
SOLDER PREFORMS

In Sizes And Shapes To Do Your Brazing Job Better

1 NOTCH COIL RINGS — No Tangling Problems
2 EDGEWOUND WASHERS — No Blanking Scrap Losses
3 BLANKED WASHERS — Close Tolerance From Thin Sheet
4 SPECIAL SHAPES — Rectangles, Ovals, U-clips, Segments and Many Others

AVAILABLE IN THESE ALCOA ALLOYS
718 Brazing Wire and Sheet
716 Brazing Wire
713 Brazing Sheet

Write For 16 Page Booklet On Better Brazing

LUCAS MILHAUPT Engineering COMPANY
5070 South Lake Drive, Cudahy, Wis.

▲ For more details circle NED-516 B9 on enclosed inquiry slip ▲

SKILMANSHIP • SKILMANSHIP • SKILMANSHIP

Dozens of Uses in Plant Production and Maintenance

New SKIL Model 823 Impact Wrench sets nuts from ⅜" to 1¼" at 2000 impacts per minute. Collet chuck quickly adapts it for drilling in metal or wood. Or use it as a screw driver, to tap holes, to drive a hole saw or as a wire brush. Contour-grip handle allows one-hand operation. Will not twist in the hand under torque. Tool cannot reverse while running. Invite your SKIL distributor to prove the many ways you can use this new Model 823 SKIL Impact Wrench.

Model 824 Impact Wrench Kit. Contains Model 823 above and these accessories: 1 Universal Joint; 1—5" Extension Bar; 6 Hexagon Sockets from ½" to 13/16" plus sturdy steel case.

Made only by SKIL Corporation, manufacturer of famous SKIL and SKILSAW products, 5033 Elston Avenue, Chicago 30, Illinois. In Canada 3601 Dundas Street West, Toronto 9, Ontario. SKIL

For more details circle NED-517 B9 on enclosed inquiry slip

A step up in safety...

BLAW-KNOX Electroforged® Steel Grating and Treads

Indoors or outdoors the safe way to build a walkway is with Blaw-Knox Electroforged steel grating. Non-slip twisted crossbar provides the safest possible surface. Self-cleaning, steel grating does not collect dirt or grease . . . provides maximum open area for light and ventilation.

Designed for flexibility, one-piece construction installs easily around beams, piping, machinery or other installations. Needs no maintenance . . . nothing to wear. All surfaces accessible for easy painting.

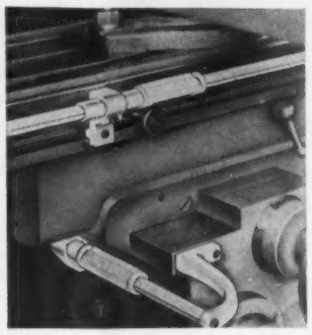
For technical data and specifications, write for Blaw-Knox Bulletin number 2527.

BLAW-KNOX COMPANY

BLAW-KNOX *Equipment Division Dept. F, Pittsburgh 38, Pa.*

For more details circle NED-518 B9 on enclosed inquiry slip

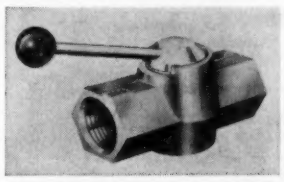
VERNIER SCALE
mounts on any precision machine tool



Improved Evertrue self-guiding vernier scale can be easily and accurately read without magnification due to expanded graduations which stand out in contrasting black on a satin chrome finish. Scale can be mounted on any precision machine tool, often using existing screw holes. Flat scales prevent parallax and distortion, and problems due to backlash, lead screw wear, and miscount of turns are eliminated by the direct reading feature. The device can be moved from machine to machine if desired. Made by **Edgcomb Engineering & Engraving Co.**, 1105 N. Hollywood Way, Burbank, Calif.

For more details circle NED-519 B9 on enclosed inquiry slip

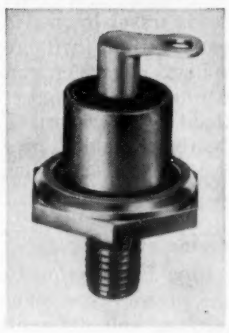
PLUG VALVE
for vacuum to 150-psi service



Virtually all noncorrosive liquids and gases can be handled by the 9200 Series plug valve. Handle opens and closes it against pressure with little effort. Valve is suited for vacuum to 150-psi service and is offered in brass in ⅛, ¼, ½, and ¾-in. sizes. A stainless steel model is made in the ¼-in. size. Three O-rings seal the top and bottom of the plug to prevent stem leakage and the inlet port for positive shut-off. Made by **Circle Seal Products Co.**, 2181 E. Foothill Blvd., Pasadena 8, Calif.

For more details circle NED-520 B9 on enclosed inquiry slip

SILICON RECTIFIER
for 50-400 v high temperature use



Full 35-amp load in half-wave service and up to 100 amp in bridge circuits can be carried by the Type 4A heavy duty silicon power rectifier. It is available with peak reverse ratings from 50 to 400 v in 50-v multiples and is applicable to all types of power circuits. Capable of being operated at ambient temperatures up to 165° C, it is unaffected by storage temperatures from −65 to 200° C. It is hermetically sealed, has a standard ¼-28 mounting stud, and may be mounted in any position. Made by **Fansteel Metallurgical Corp.**, Dept. NDC, 2200 Sheridan Rd., North Chicago, Ill.

For more details circle NED-521 B9 on enclosed inquiry slip

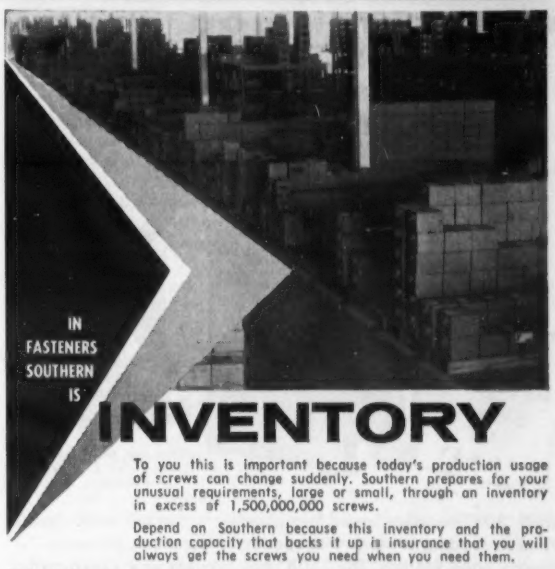
TONG TEST is the only instrument of its type that measures both alternating and direct current. Press trigger and snap tongs around the electrical conductor for an instant reading, without shutting down equipment. Interchangeable ranges up to 1000 amperes; impossible to read the wrong scale.

Rugged and dependable, safe and accurate. No coils or wires to burn out. Thousands of TONG TEST AMMETERS in use after more than 25 years of active service. Five types available for conductors up to 3⅞" diameter, or bus bars up to 4½" x ½".

Write today for Catalog ND-400

COLUMBIA **COLUMBIA ELECTRIC MFG. CO.** 4525 Hamilton Ave. CLEVELAND 14, OHIO

For more details circle NED-522 B9 on enclosed inquiry slip



To you this is important because today's production usage of screws can change suddenly. Southern prepares for your unusual requirements, large or small, through an inventory in excess of 1,500,000,000 screws.

Depend on Southern because this inventory and the production capacity that backs it up is insurance that you will always get the screws you need when you need them.

Write today for a current copy of Southern's Stock List, and for complete details about our new time- and money-saving pallet system. Address: Southern Screw Company, P. O. Box 1360, Statesville, North Carolina.

Wood Screws
Stove Bolts
Tapping Screws
Machine Screws & Nuts
Drive Screws
Dowel Screws
Hanger Bolts
Carriage Bolts

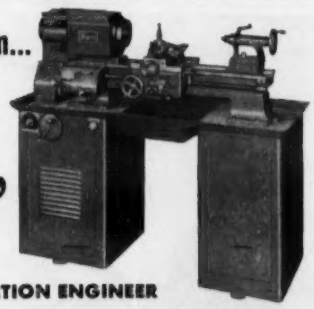
Southern SCREW COMPANY STATESVILLE • NORTH CAROLINA

Warehouses: New York • Chicago • Dallas • Los Angeles

For more details circle NED-523 B9 on enclosed inquiry slip

"When lathes jam...

look out!"



SAID THE PRODUCTION ENGINEER

"Any man who specifies or influences the purchase of metal-working lathes knows that jamming of a lathe carriage or tool by an inexperienced operator can mean costly gear breakage and flying metal. But it *does* happen.

"What *I* didn't know was that *only* Logan Engineering makes 12" screw cutting and turret lathes with a *built-in* automatic safety gear as standard equipment. At the instant of overload the safety gear disengages, guarding against damage in the train of gears from spindle through gear box.

"This fine Logan 12" lathe—with 38 to 1400 rpm variable speed drive and no manual belt shifting—gives us 'built-in' insurance against heavy repairs and production slow-downs. And for a lower price!"

NOTE: These features are standard, too, on Logan 14" screw cutting models (variable speed range, 38 to 1400 rpm). On Logan 11", 10" and 9" lathes, automatic safety gear is optional.

LOOK AT A *Logan* BEFORE YOU LEAP

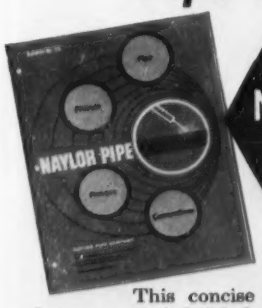
Catalog on request. Phone your Logan dealer or drop a line to—

LOGAN ENGINEERING CO.

Dept. Q-259, 4901 Lawrence Avenue, Chicago 30, Illinois

For more details circle NED-524 B9 on enclosed inquiry slip

Helps Answer Pipe Problems!



CONDENSED **NAYLOR CATALOG** Offers Data on Pipe and Fittings

This concise catalog presents helpful data on NAYLOR pipe, fittings and connections for use on large diameter pipe applications. Includes standard specifications on pipe sizes from 4" to 30" in diameter—in steel, alloys and stainless steel.

for

Water lines
Air lines
Compressed air lines
Gas lines
Ventilating lines
Process lines
Pneumatic conveyors
Sludge lines
Vacuum lines
Drainage lines

Ask for Condensed Catalog No. 58.

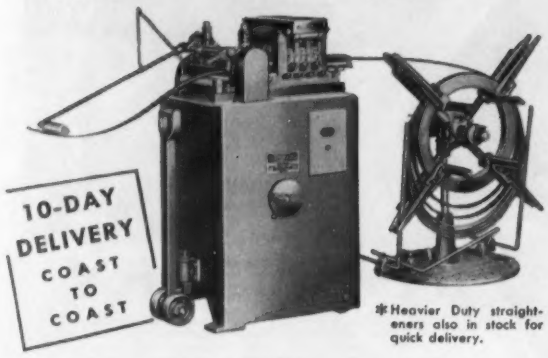
NAYLOR PIPE *Company*

1247 E. 92nd St., Chicago 19, Illinois

Eastern U.S. and Foreign Sales Office: 60 East 42nd Street, New York 17, N. Y.

For more details circle NED-525 B9 on enclosed inquiry slip

STRAIGHTEN COIL STOCK
from ½" to 8" wide...
from .018" to .065" thick...
on a LITTELL "308"*



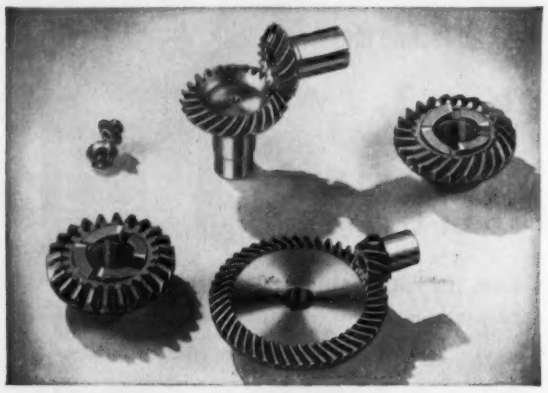
*Heavier Duty straighteners also in stock for quick delivery.

Littell "308" Variable Speed Straighteners flatten coil stock...synchronize feeding of stock with speeds of automatic presses . . . simplify hand feeding. The "308" has brought new speed, efficiency and economy into stamping, blanking and shearing operations from coast to coast. Get full details on these portable straighteners.

Write for Catalog Section "C"

F. J. LITTELL MACHINE CO. — Speed with Safety
ROLL FEEDS • COIL CRADLES
STRAIGHTENING MACHINES
REELS • AIR BLAST VALVES
District Offices: Detroit, Cleveland
4169 N. RAVENSWOOD AVE. • CHICAGO 13, ILL.

For more details circle NED-527 B9 on enclosed inquiry slip



Famous G. S. Precision Guards Your Production

Whether you need hundreds or thousands, G.S. gives you a degree of UNIFORM accuracy *unapproached by any other Small Gear maker in the world!* That assures smooth, dependable performance and low assembly costs.

G.S. Small Gearing is mass-produced in a range of sizes from 8 to 96 dp . . . from ⅛" to 8" diameters, and from any Gear material. Capable G.S. engineers will gladly help you develop the ONE best and most economical design for your specific needs. Send drawings and specifications or a complete description.

SEND FOR FREE Illustrated Small Gearing Guide

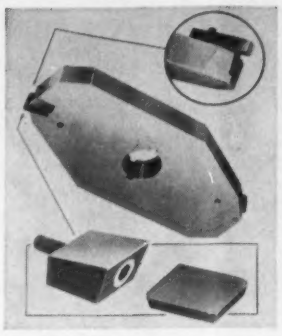
FRACTIONAL HORSEPOWER GEARING

GEAR Specialties, Inc.
Spurs • Spirals • Helicals • Bevels • Internals • Worm Gearing
2635 WEST MEDILL AVENUE, CHICAGO 47, ILLINOIS
WORLD'S LARGEST EXCLUSIVE MANUFACTURERS OF FRACTIONAL HORSEPOWER GEARS

For more details circle NED-528 B9 on enclosed inquiry slip

For more details circle NED-529 B9 on enclosed inquiry slip

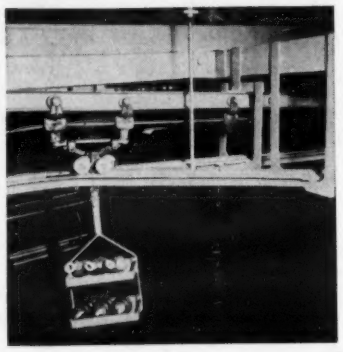
CARBIDE BLADE FLY CUTTER for skin and spar milling



This two-station positive rake fly cutter for skin and spar milling on aluminum forgings and castings reduces tool inventory by 50 per cent or more. Width of cut is controlled by blade setting gage that locks on side of cutter. Setting is made without removing cutter from spindle. Cutter is dynamically balanced and has a wedge holding safety factor of 300 per cent. The solid carbide, parallelogram-shaped indexable blades permit cuts to a 90-degree shoulder. In case of accident, the inexpensive, replaceable wedges take the brunt of the damage. Made by **Futurmill, Inc.**, 6360 Highland Rd., Pontiac, Mich.

For more details circle NED-530 B9 on enclosed inquiry slip

OVERHEAD CONVEYOR trolleys are readily switched



Switching of trolleys as desired through any processing operation and picking them up again is possible on this overhead conveyor system. Carriers can travel by gravity in free systems, or they can be switched to another power system for dipping, baking or other operations. The free trolleys travel on a lower track that is supported from the monorail when in a power system. Power and movement is provided by Dearborn Cable-Link trolleys, links, drives, and corner turns. Loads travel by gravity until switched into the power systems, and then are picked up by the Cable-Link trolleys. Transfer from power to free is executed by a manual, hydraulic, or air-operated mechanical switch. Made by **Dearborn Fabricating & Engineering Co.**, Dearborn Cable-Link Conveyor Div., 19440 Glendale Ave., Detroit 23, Mich.

For more details circle NED-531 B9 on enclosed inquiry slip

Manometers

King Engineering Corp.—Redesigned and expanded line of well-type manometers for measuring pressure, vacuum, and differential pressure are detailed in 24-page Catalog 2008. Low-well and raised-well models are available in 17 ranges from 6 to 130 in. for pressures to 250 psi. Single-tube units can be furnished for wall, pipe, table, flush-front, front-of-board, or hook mounting. Eight standard scales are offered.

For more details circle NED-532 B9 on enclosed inquiry slip

Aftercooler and Cyclone Separator designed for cleaner, dryer compressed air

The Adams Aftercooler and Cyclone Separator are designed to efficiently condense and remove water from compressed air and process gas. Condensed moisture and entrained dirt and oil are subsequently removed in a cyclone type separator. This unit is scientifically designed for maximum removal efficiency over a wide range of flow rates.

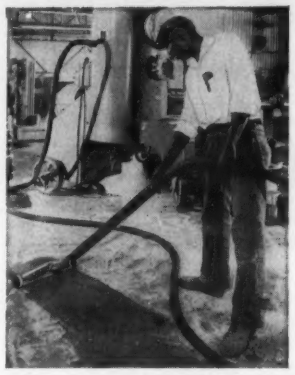
For normal use, units are available to cool gases to within 10° F of the temperature of the cooling water. Specially designed units are available to permit a 2° F approach to cooling water temperature, for application where low moisture content is critical.

Adams Aftercoolers and Separators are available from stock to handle 20 - 40,000 cfm with 10° cooling and 25 - 19,200 cfm where it is necessary to cool within 2°F of the cooling water. Special units can be supplied to suit an unlimited range of requirements. In all cases the maximum pressure loss at rated capacities is ½ psi.

This wide range of sizes enables the economical utilization of Adams Aftercoolers and Separators in virtually all industrial application. For further information on how R. P. Adams' units will solve your compressed air problems and save you money, write today for Bulletin 711. R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, New York. *Advt.*

For more details circle NED-533 B9 on enclosed inquiry slip

NEW PRODUCTION AND SAFETY RECORDS SET IN MAGNESIUM FOUNDRY WITH PORTABLE WETCO-VAC

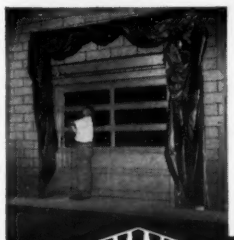


By preventing fire and explosion hazards from dust and fine chips in smooth finish grinding of magnesium, the portable Hoffman Wetco-Vac vacuum cleaner helps make fabrication of magnesium and other light metals practical as well as economical. Wetco-Vac controlled housekeeping also insures increased production and lower operating costs. Incorporating vacuum principles with modifications to include the use of water as a wetting agent, the Wetco-Vac prevents dust accumulations and hydrogen-air mixtures. In developing a suction of 6.5" HG, the Wetco-Vac has sufficient capacity to operate two 1½-inch ID cleaning lines simultaneously. Heavy duty, rubber covered static proof hoses can be 25, 50, 75 or 100 ft. in length. There are no internal moving parts and all interior surfaces are accessible for inspection and cleaning.

A typical Wetco-Vac installation at the light metals foundry of Arlington, Texas, Industries Inc., has provided a 25% savings in operating costs and a 33% increase in productive capacity. For more information and case history, write to **U. S. Hoffman Machinery Corp., 103 Fourth Ave., N.Y. 3, N.Y.**

For more details circle NED-534 B9 on enclosed inquiry slip

COMPLETE DOCK PROTECTION IN SECONDS — ONE MAN OPERATION



Just think . . . in seconds you can give trucks at your dock complete protection on the coldest days . . . save personnel from winter colds and accidents . . . protect products from weather damage and freezing. Rugged, heavy duty, spring-loaded steel frame needs no maintenance . . . UL approved fabrics are fire, water, mildew-resistant.

WRITE for complete details and prices.

FROMMELT INDUSTRIES
DUBUQUE, IOWA
The Name To Remember For Approved Safety Products

For more details circle NED-535 B9 on enclosed inquiry slip

ROTARY AIR GAST PRODUCTS

Six sizes . . . all variable speed, explosion-proof

GAST ROTARY VANE AIR MOTORS

Need compact, low cost power? For plant use and original equipment applications, Gast rotary-vane Air Motors offer these distinct advantages:

1. Explosion-proof power. No danger!
2. Low initial cost per rated h.p.
3. Variable speed with valve control.
4. Can't burn out from overloads.
5. Vanes take up their own wear.
6. Reversible rotation (opt.) 5 sizes.
7. Very compact — light in weight.
8. Top-quality ball-bearing design.

TYPICAL PERFORMANCE

Model No.	H.P. at 90 PSI 2000 RPM	Weight lbs.
1AM	0.13	1½
2AM	0.57	5½
4AM	1.1	8
6AM	2.0	17
8AM	4.0	25
16AM	7.0	65

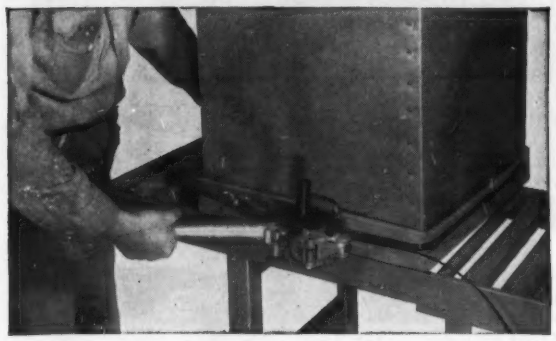
Gast Manufacturing Corp.
P.O. Box 117 R
Benton Harbor, Mich.

Write for Bulletins — specify models!

GAST ROTARY
"Air may be your answer!"
• AIR MOTORS TO 7 H.P.
• COMPRESSORS TO 30 P.S.I.
• VACUUM PUMPS TO 28 IN.

For more details circle NED-536 B9 on enclosed inquiry slip

Signode one-hand strapping tool is easier, faster to use



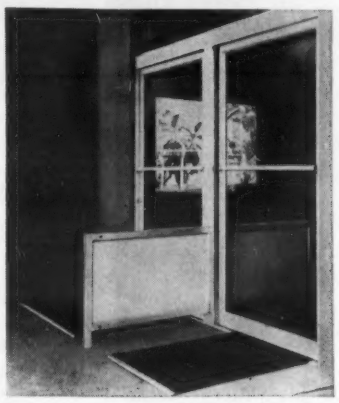
Here's a complete, semi-automatic tool you can operate with *one hand!* It tensions, seals and scores the strapping in one continuous operation. Weighing only 6½ pounds, it is the only one-piece, one-hand strapping tool made. Its light weight makes it easy to apply strapping on the side of a package or on narrow surfaces such as crates and small containers. An operator using this tool can carry on the strapping operation with one hand while draping the strap on the container with the other. For ½", ⅝" and ¾" strapping. Ask for literature on *Signode's SFC Strapping Tool.* Circle inquiry number, or write

SIGNODE STEEL STRAPPING CO.

2643 N. Western Avenue, Chicago 47, Illinois
Offices coast to coast.
Foreign Subsidiaries and Distributors World-Wide
In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto

▲ For more details circle **NED-537 B9** on enclosed inquiry slip ▲

AUTOMATIC ENTRANCE PACKAGE includes door, frame, and operator

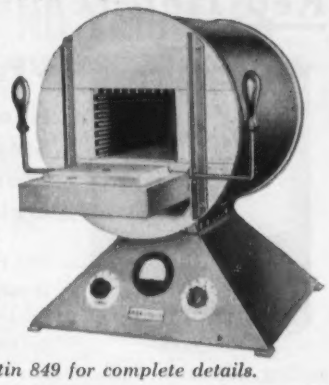


Bulky hydraulic or pneumatic actuators are not required by this all-electric automatic door entrance which consists of a door, frame, and operating mechanism as an integral unit. Mechanism is contained within the 4½-in. wide transom bar above the door. The door can be opened manually simply by exerting force enough to overcome the electrical power in either direction. A heavy, resilient vinyl weatherstrip protects fingers which might be caught between door and frame. Door automatically slows down as it nears the end of each opening and closing cycle. Made by Kawneer Co., Niles, Mich.

▲ For more details circle **NED-540 B9** on enclosed inquiry slip ▲

"Multiple Unit" MUFFLE FURNACE

Temperatures to 1850° F.



This furnace is a complete self-contained unit with the temperature indicating and controlling devices conveniently located in the pyramidal base. Four interchangeable and reversible heating units of heavy gauge Nickel Chromium Wire installed in grooved refractory plates completely surround the heating chamber.

Write for Bulletin 849 for complete details.

Type	Watts	Chamber W.	Chamber L.	Chamber H.	Price
051-PT	1150	5¼	8	4	$ 145.00
052-PT	1440	4¼	10	3	210.00
054-PT	2070	5¼	12	4	245.00
056-PT	3400	7½	14	5	315.00
012148-PT*	6500	11¼	14	8	1050.00

Operating voltage either 115 or 230 volts A.C. only except 012148-PT is 230 volt only.
*Automatic temperature control $230.00 additional.

HEVI DUTY ELECTRIC CO.
Milwaukee 1, Wisconsin

• LABORATORY FURNACES
TRADE MULTIPLE UNIT MARK
• ELECTRIC EXCLUSIVE

▲ For more details circle **NED-543 B9** on enclosed inquiry slip ▲

POWERED SWEEPING AT LOWEST COST

ROTA-BRUSHES SWEEP 40" PATH

The fastest way to sweep all litter and debris. 50,000 sq. ft. per hour. Easy to maneuver around boxes, crates and aisles. Saves time and money!

FREE DEMONSTRATION

Write for free booklet . . . no obligation

Parker FLOOR SWEEPERS

another achievement of
PARKER SWEEPER COMPANY
BOX 720-1 SPRINGFIELD, OHIO

▲ For more details circle **NED-538 B9** on enclosed inquiry slip ▲

SPEED CHANGERS horizontal and vertical units offered in ratios up to 10:1

Four - position motor mounting and two-position gear mounting make it possible to adapt Vari-Tex speed changers to varying space conditions. The one-piece motor and driver sheave shaft is supported between bearings at the ends to minimize shaft deflection. Horizontal and vertical units have over-all electrical input to mechanical output efficiency of about 78 per cent.

Changers are designed primarily for constant torque applications, with speed ratios dependent upon size. Four case sizes have a maximum speed ratio of 10:1 in 1, 1½, 2, and 3-hp units and 4:1 in the 40, 50, and 60-hp units. Maximum ratios in the intermediate units is 6:1. Units can be assembled to provide intermediate ratios of 5:1, 4:1, 3:1, or 2:1, using 1800 or 1200-rpm standard squirrel-cage or Synduction motors in open, totally-enclosed, explosionproof, or Super-Seal construction.

Single, double, and triple reduction gears offer ultra low speed range variations. Stepless speed changes are obtained by rotating an external handwheel. Made by **Allis-Chalmers Mfg. Co.**, 918 S. 70th St., Milwaukee 1, Wis.

▲ For more details circle **NED-541 B9** on enclosed inquiry slip ▲

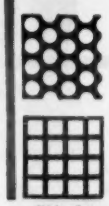
*Product Development by William M. Schmidt Associates.

H & K perforated metals serve a function of design

The orientation of television, AM-FM radio and phonographic elements into one modular housing containing all mechanical, electronic and control devices is one function of the mock-up illustrated. Another is the utilization of H & K perforated metal for the necessary ventilation and sound requirements of such equipment.

H & K Perforated Metal offers the Industrial Designer and other men of ideas, materials that are aesthetically interesting and functionally honest. If perforated materials can be utilized in your product, please contact us. Our sales engineers will be pleased to work with you.

Thousands of patterns



Write for Catalog

THE Harrington & King PERFORATING CO., INC.

Chicago Office and Warehouse
5658 Fillmore St., Chicago 44

New York Office and Warehouse
114 Liberty St., Dept. NED, New York 6

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SWIFT Glass Body Oil Cups

SUPPLIED FROM STOCK!

Let Swift supply you with Glass Body Oil Cups from its complete stocks. Oil Cups have polished brass finish, tough heat-and-stain resistant Pyrex glasses. Available in all standard sizes for immediate delivery.

Sight Feed & Plain Glass Oil Cups For gravity feed oiling of bearings and other points where no back pressure exists. Spring loaded slide opening on lid keeps dust and dirt from bowl.

Gas Engine Lubricators For gravity feed of oil against pressure on gas engines, blowers, vacuum pumps, low pressure air pumps.

SWIFT *Glass Division*
SWIFT LUBRICATOR COMPANY, INC.
5 Glass St., Elmira, N.Y.

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A happy ending to those excessive wire-rope costs

Electroline
WIRE ROPE FITTINGS

Tremendous holding strength and a simple design that reduces rope wear at the commonest point of failure, make Electroline Fittings the first choice of veteran wire rope users.

Easy Application—an Electroline fitting goes on in a jiffy; no molten metal, just ordinary tools.

Lasting Grip—they hang on "for keeps".

Rope Lasts Longer—vibration damped, rope fatigue reduced.

Fittings Reusable—when wire rope is "worn out"—use the fittings again and again, indefinitely.

That's the simple story of how to gain substantial savings. Next step—write for the Electroline catalog with full information.

Electroline COMPANY
4121 SOUTH LASALLE STREET • CHICAGO 9, ILLINOIS
In Canada: Powerlite Devices, Ltd., Toronto

▲ For more details circle **NED-542 B9** on enclosed inquiry slip ▲

Would a better RETRACTOR or COUNTERBALANCE improve your equipment?

If this possibility exists, it will pay you to know more about CALDWELL CLOCK-SPRING BALANCES. These dependable, accurately tensioned balances have been adapted to a wide variety of uses with complete success.

- Photographic Enlargers
- TV Studio Lighting
- X-Ray Machines
- Hair Dryers
- Show Case Doors
- Safety Guards
- Exercising Equipment
- Sliding Doors, Panels
- Bulletin Boards
- Disappearing Stairways
- Fume Hoods
- Retracting Cables, etc.

The Caldwell Balance is available in numerous types and sizes, and may very likely be the perfect answer to your counterbalance-retractor problems. Why not write us today, outlining your particular needs.

CALDWELL MFG. CO.
Dept. N, P.O. Box 444, Rochester 2, N.Y.

▲ For more details circle **NED-545 B9** on enclosed inquiry slip ▲

Protects Metals at Red Hot Temperatures!

UP TO 2200°F

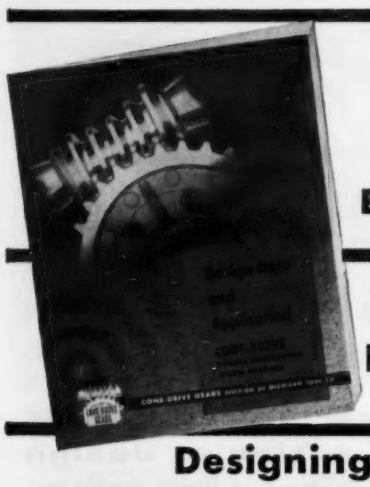
Heatproof Coating Stops Corrosion, Scaling and Oxidation

MARKAL "S-R" Coatings were developed to protect metals, graphite or carbon parts against scaling, corrosion, oxidation, or carbon and hydrogen penetration at temperatures up to 2200°F. MARKAL "S-R" Coatings are excellent for the protection of stacks, radiant tubes, retorts, carburizing grids, mufflers, manifolds, etc.

MARKAL "S-R" Coatings will not peel or crack at high temperatures and are not affected by rapid heating and cooling cycles.

MARKAL Coatings are manufactured in a complete range of types for specific applications. Write for a free copy of Catalog MPC. The MARKAL COMPANY, 3053 W. Carroll Ave., Chicago 12, Illinois.

▲ For more details circle NED-546 B9 on enclosed inquiry slip ▲



FREE to Design Engineers

New Bulletin 200

Designing WORM GEARS

24 pages of technical data and formulas with step-by-step instructions on the design and application of Cone-Drive double-enveloping worm gearing.

CONE-DRIVE GEARS
DIVISION MICHIGAN TOOL COMPANY
7171 E. McNichols Rd. • Detroit 12, Michigan

▲ For more details circle NED-547 B9 on enclosed inquiry slip ▲

$1600* will put this Power Press Brake to work in your shop in a matter of days...

If you're trying to "get by" without a power press brake . . . or if you're tying up big brakes on small jobs . . . here's the answer to your problem — a rugged Verson Model 16-48 press brake. You can get one right "off the shelf" for only $1600*. You get the famous Verson all steel construction plus proved-in-service Verson design. Capacity is 16 ga. x 48" of mild steel. Write for complete specifications and then place your order. That's all there is to it . . . no involved proposals . . . no delays.

*Prices F.O.B. Chicago, less dies; subject to change without notice.

ORIGINATORS AND PIONEERS OF ALLSTEEL STAMPING PRESS CONSTRUCTION
VERSON ALLSTEEL PRESS CO.
9329 S. Kenwood Avenue, Chicago 19, Illinois
8300 S. Central Expressway, Dallas, Texas

▲ For more details circle NED-548 B9 on enclosed inquiry slip ▲

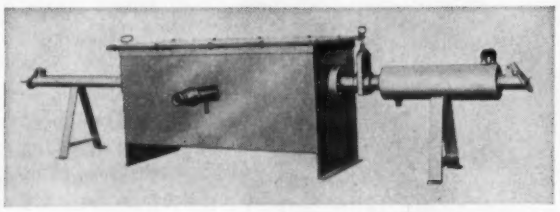
VENTURI TORCH BURNERS in 120,000 to 9,300,000 Btu ratings

Industrial furnaces, air heaters, ovens, and dryers are provided with a wide range of heat control by the Hi-Lo venturi torch burner. With low-pressure gas, it affords 10-to-1 turndown without flashback or loss of flame stability. Burner provides 16-to-1 turndown with 10-psi gas. Flame adjusts automatically when the single control valve changes the gas input. Torch operates under furnace drafts up to 2.0 in. water column and gas pressures from 4 in. water column to 20 psi. Low pressure burners range from 120,000 to 1,800,000 Btu; the medium-pressure series, from 200,000 to 9,300,000 Btu per hr. Made by **Bryant Industrial Products Corp.**, 17700 Miles Ave., Cleveland 28, Ohio.

▲ For more details circle NED-549 B9 on enclosed inquiry slip ▲

TUBE FURNACES for high temperature research

Temperatures to 5000° F can be reached in 2 hr and maintained uniformly throughout the heated length of Hevi-Duty carbon-resistor tube furnaces. Close regu-



lation of temperatures is assured by automatic saturable reactor control system. Gates at both ends of the heated zone minimize radiation losses into the charge and cooling chambers. Furnaces are used for investigation of high temperature ceramics and cermets, or of hot-pressing techniques for metal oxides, carbides, borides, and ceramic-metal combinations; to determine rate of sintering under load for high temperature alloys; and for fabrication of natural and synthetic minerals. Internal heated lengths range from 1 x 12 in. to 5 x 48 in. Made by **Hevi-Duty Electric Co.**, Box 563, Milwaukee 1, Wis.

▲ For more details circle NED-550 B9 on enclosed inquiry slip ▲

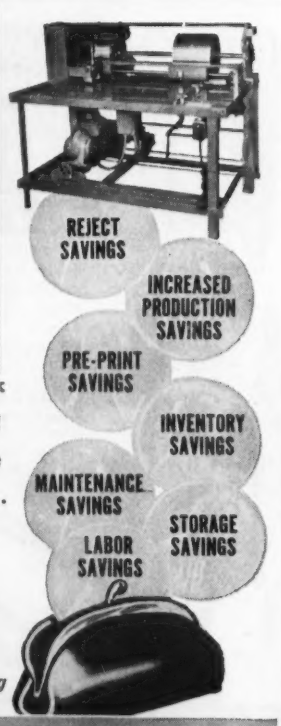
Mounted Abrasive Wheels

Chicago Wheel & Mfg. Co.—Illustrations of mounted abrasive wheels shown in 4-page Bulletin 1505 are full size and show exact dimensions and prices. Line of abrasive wheels includes 200 standard sizes and 86 standard shapes, available in a variety of bonds, including vitrified, resinoid, and soft rubber polishing.

▲ For more details circle NED-551 B9 on enclosed inquiry slip ▲

START THIS MARKING PROFIT PARADE

.....use industrial's NEW AUTOPRINTER!



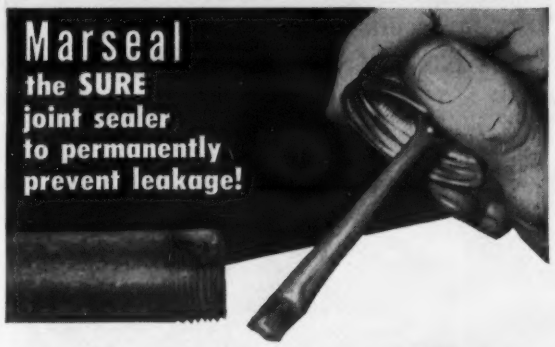
With the new, modern Autoprinter, you date, mark or code multiwall bags and containers as you need them! Completely automatic and electronically controlled, the Autoprinter works right with your production line . . . at up to 3,000 impressions per hour!

Investigate how the Autoprinter can speed your operation, save container pre-printing and storage costs, and eliminate costly manual marking expense.

Write for details and catalog Dept. NED

ime INDUSTRIAL MARKING EQUIPMENT company, inc.
655 BERRIMAN ST. BROOKLYN 8, N.Y. NI 9-3305

▲ For more details circle NED-552 B9 on enclosed inquiry slip ▲



Try it! You'll agree no other pipe thread and joint sealing compound seals like Marseal.

Marseal makes a permanent, solvent-proof flexible connection that lasts until taken apart. It is guaranteed!

- Insoluble in gasoline, oils, kerosene, L-P gas, refrigerants, chlorinated hydrocarbons
- Makes permanent joints — easy to take apart.
- Withstands pressure and vibration.

Write now for complete information and your special introductory offer!

MARGATE MANUFACTURING CO
MARGATE, NEW JERSEY

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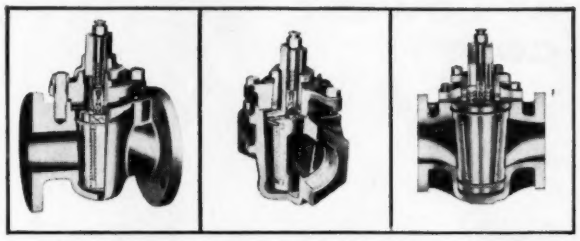
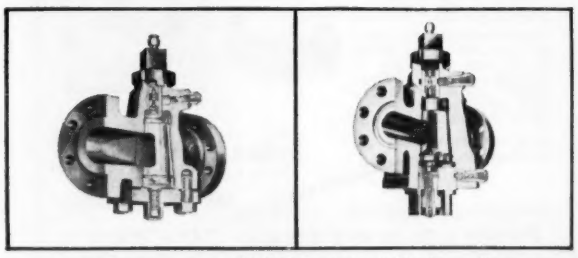
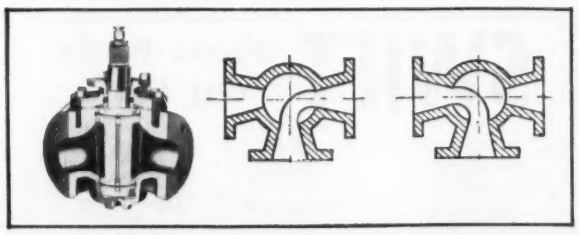
What are your valve needs?
SPECIFY FROM ROCKWELL-NORDSTROM'S COMPLETE VALVE LINE



For working pressures from 175-lb to 800-lb, Rockwell-Nordstrom valves are available in semi-steel and corrosion resisting alloys in sizes from 1" to 24".



For working pressure to 10,000-lb, Rockwell-Nordstrom Hypreseal valves are available in steel and corrosion resisting metals in sizes to 30". Operated by wrench, gear or power actuators.



Rockwell-Nordstrom Multiport valves permit three and even four way control with one valve . . . ideal for batching, blending or relief service. See diagrams for a few of the possible flow arrangements.

Rockwell-Nordstrom is the world's most complete line of lubricated plug valves, plug valve lubricants and operating accessories. Whatever your needs, you'll get better flow control at far lower cost when you specify from the Rockwell-Nordstrom line.

Rockwell Manufacturing Co., Pittsburgh 8, Pa.
Canadian Valve Licensee: Peacock Brothers Limited.

Circle No. 554 on the reply card in this magazine for free details.

ROCKWELL-Nordstrom VALVES
it's ROCKWELL
MANUFACTURING COMPANY

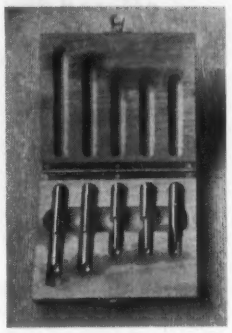
▲ For more details circle NED-554 B9 on enclosed inquiry slip ▲

PORTABLE PAINT HEATER FEATURES *HIGH CAPACITY, LOW COST*

Light in weight and thoroughly insulated for comfort, the Spee-Flo 300 B2 Paint Heater is rated at a big 10 gallons per hour — adequate for almost any size maintenance or construction job. Low in cost, the 300 B2 soon pays for itself in improved quality, reduction of overspray, one-coat coverage, faster drying time and material savings up to 40% The explosion-proof heater contains no moving parts . . . is virtually maintenance-free. It can be installed in any conventional paint system in a few minutes. No special care is required for cleanout or color change. The unit comes complete with hose and cable set for operation from a standard light circuit. Write for free booklet detailing advantages and savings: "Why Hot Spray?", The Spee-Flo Company, 6614 Harrisburg Blvd., Houston, Texas. *Advt.*

▲ For more details circle **NED-555 B9** on enclosed inquiry slip ▲

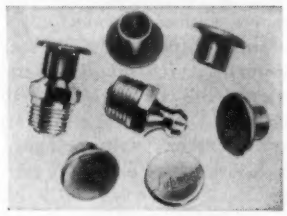
CARBIDE BORING BARS can be resharpened many times



Solid carbide heads of Titan boring bars permit them to be resharpened many times for long tool life. Constant clearance through tool life is assured, as the tool is ground only on the cutting face. Bars are suited for working hard steels, alloys, and cast metals. Sizes from 1/8 to 3/4 in. are offered in 3/8 or 1/2-in. shank sizes. Tips are ground for boring or facing. Made by **Titan Tool Supply Co.**, 1419 Hertel Ave., Buffalo 16, N. Y.

▲ For more details circle **NED-557 B9** on enclosed inquiry slip ▲

GREASE-FITTING CAPS exclude dirt and are color-coded



Made of durable plastic, Lubseal grease-fitting caps snap over any standard fitting. They prevent accumulation of harmful dust, dirt, fluids or abrasives on fittings which could be injected into bearings during greasing. They also mask fittings during painting. Available in bright red, blue, green, and yellow colors, they effectively flag hard-to-find fittings, and they also permit color-coding for lubrication procedures. Price is $7.50 per 1000. Made by **Wilson Plastics, Inc.**, 1531 Milan Rd., Sandusky, Ohio.

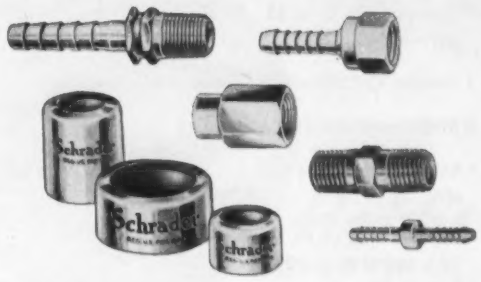
▲ For more details circle **NED-558 B9** on enclosed inquiry slip ▲

PLATFORM STACKING TRUCK capacities range up to 6000 lb

Maneuverability for skid and skid box handling in congested areas and economical stacking are provided by this Model WLT platform stacker, a Transporter operator-led power lift truck. It will operate in a 64 1/2-in. right-angle aisle with a 48-in. long by 36-in. wide load. It is available in 4000, 5000, and 6000-lb capacities with platform lengths, widths, and lowered heights plus telescopic and nontelescopic lifts to suit all needs. Made by **Automatic Transportation Co.**, 149 W. 87th St., Chicago 21, Ill.

▲ For more details circle **NED-559 B9** on enclosed inquiry slip ▲

NOW! FITTINGS AND FERRULES FOR AIRTIGHT CONNECTIONS



You can install compressed air systems as easily as electricity. Schrader Airline Fittings, Ferrules and Tools make neat, efficient, professional air installations easy. In addition to the threaded hose fittings and hose ferrules shown here, Schrader also produces the finest air hose, fitted hose lengths, ferrule contracting tools and hose reels... including new air tool hose reels.

These products make positive airtight seals that will not pull or blow out, no sharp edges to catch, scratch or cut. **Send for informative literature which shows all these fine products with specifications and directions for use.**

Schrader®

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Inc.
459 Vanderbilt Avenue, Brooklyn 38, N. Y.

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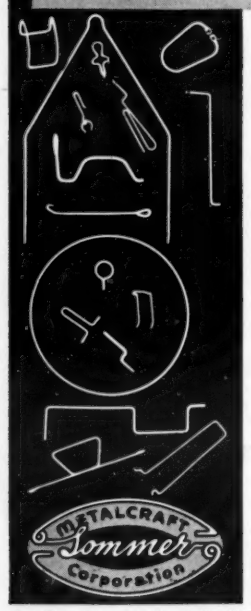
WIRE PARTS and PRODUCTS Fast... Accurate... Low Cost



The forms shown here are only a few we make. They indicate our broad experience with different shapes, materials, finishes, welds.

Automatic wire-forming machines produce precision work on a volume basis at competitive prices, and speed up deliveries.

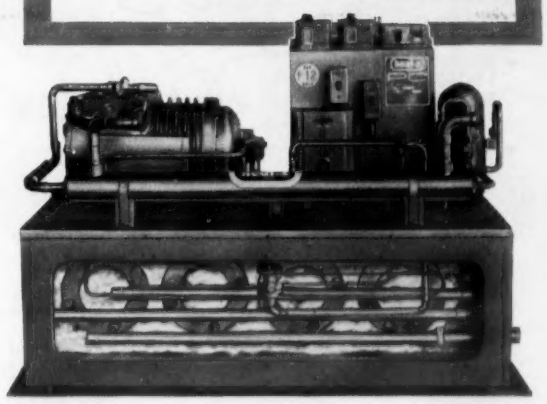
Finishes include baked enamel, cadmium, brite zinc, brite nickel, nickel chrome and mill finishes —in both barrel and fully automatic equipment.

Inquiries are invited and will be answered promptly. Send sample, blueprint or drawing. We will submit recommendations and quotations without delay.

SOMMER
METALCRAFT CORPORATION
200 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

▲ For more details circle **NED-556 B9** on enclosed inquiry slip ▲

heat-x READY-TO-GO CAST COOLER PACKAGE UNITS



for cooling process water—other low viscosity liquids

Where large volume of water at low temperature is required, Heat-X "CCP" Cast Cooler Package Units provide a dependable and economical supply. "CCP'S" are widely used in the food processing industry, in bakeries, bottling plants, etc.

"CCP" units are ready to "plug-in" . . . are factory tested before shipment, charged with refrigerant. Capacities from 1/3 to 10 H.P. Stainless steel circuits for cooling Freons, cooling kerosene, light oils or slightly corrosive liquids. Individual cast aluminum coolers provide rugged strength for protection against freeze-up damage. High hold-over capacity.

Heat-X manufactures a complete line of Package Chillers for air conditioning systems, drinking water or beverage cooling applications and industrial water cooling.

Send For Bulletin 8024

DUNHAM-BUSH

HEAT-X, Inc.
SUBSIDIARY OF DUNHAM-BUSH, INC.
BREWSTER, NEW YORK

▲ For more details circle **NED-561 B9** on enclosed inquiry slip ▲

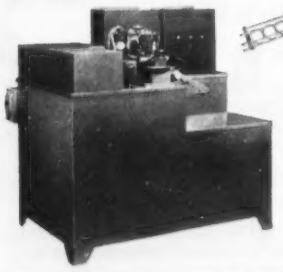
*Something **NEW** you should know about!*

FEEDMATIC-DETROIT AUTOMATED EQUIPMENT

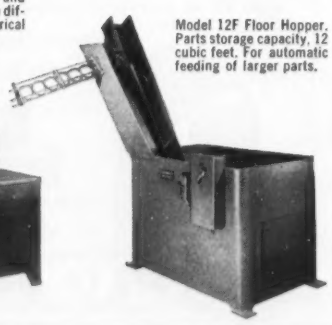
Now, you can speed small parts production and cut costs with new Feedmatic electrically controlled machines. These units automatically and continuously feed, inspect, segregate or assemble parts at greater efficiency . . . reduce handling costs on high volume operations. Use Feedmatic automated machines separately or for high speed delivery to machine tools, heat treating furnaces or final assembly areas.

If your operation involves the manufacture or processing of parts in volume quantities, it will pay you to investigate the cost saving advantages of Feedmatic automated equipment. *Send us your problem today!*

FEEDMATIC-DETROIT, INC.
26901 W. Seven Mile Road • Detroit 40, Michigan

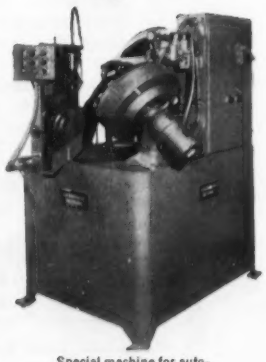


Automatic Gaging Machine measures and sorts parts. Adjustable stops, anvils and gage heads to facilitate change over to different size parts. Tolerance of electrical gages adjustable from .0005 to .020.



Model 12F Floor Hopper. Parts storage capacity, 12 cubic feet. For automatic feeding of larger parts.

Rotary hopper unit. Fast, efficient parts feeding. Available in sizes from 8" to 24". Feed tracks engineered to meet specific job conditions.



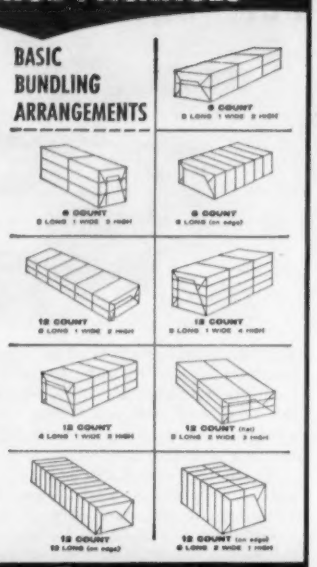
Special machine for automatically assembling automotive components.

NEW from BATTLE CREEK

HAND FED AUTOMATIC BUNDLER WRAPS LARGE PACKAGES

- Speeds from 1 to 18 per minute
- Handles Cellophane
- Kraft paper with glue
- Polyethylene, Mylar, etc.
- Handles lengths 5" to 12", widths 4" to 10", heights 2" to 8"
- Wraps without supports
- One operator to assemble items . . . balance of operation automatic

BASIC BUNDLING ARRANGEMENTS



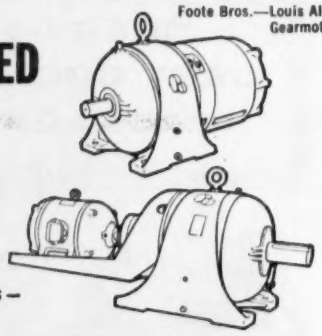
Continuous Flow
BATTLE CREEK packaging machines, inc.
BATTLE CREEK, MICHIGAN

For more details circle NED-565 B9 on enclosed inquiry slip

FOOTE BROS.
Better Power Transmission Through Better Gears

MOTORIZED DRIVES

Foote Bros.—Louis Allis Gearmotor



- Gearmotors in sizes 1 to 150 HP Single, Double, Triple Reductions
- LINE-O-MOTOR Drives — 1 to 75 HP Double, Triple Reductions

LINE-O-MOTOR DRIVE

Foote Bros.—Louis Allis Gearmotors are available in over 3500 types and sizes, with output speeds from 780 to 7.5 RPM.; Foot, Flange, or Extended Bearing Flange mountings.

LINE-O-MOTOR Drives permit you to use your own NEMA frame motor, or specify the type you prefer. Ratios from 5 to 1 through 238 to 1.

GEARMOTORS and LINE-O-MOTOR Drives incorporate famous Foote Bros. DUTI-RATED Gearing for high capacity, smooth operation, long life.

84 page Bulletin MRA has complete details and selection data on Foote Bros. Motorized Drives. *Write for it today.*

FOOTE BROS. GEAR AND MACHINE CORPORATION
4569 South Western Boulevard • Chicago 9, Illinois

For more details circle NED-566 B9 on enclosed inquiry slip

The TOOL

The TECHNIQUE

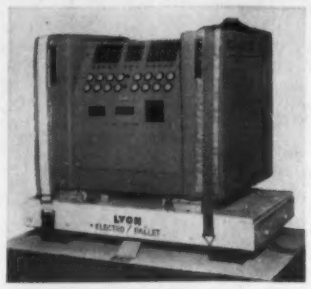
For lowest cost per unit processed they're both ANDERSON

Write for complete catalog of wire brushes, with detailed selection and operation data.

Anderson CORPORATION
1048 Southbridge Street, Worcester, Mass.

For more details circle NED-567 B9 on enclosed inquiry slip

SHOCK ABSORBING PALLET for electronic, delicate equipment offered for sale, lease, or shipping



Electronic devices, data processing systems, navigational equipment, and other fragile or calibrated products are protected during assembly line operations, in-plant handling, and transportation to destination by this Electro-Pallet. Elastomeric mounts isolate the carrying section from the base, and this carrying platform absorbs shock and vibration on all three axes. Equipment is attached to platform, and the pallet section can be handled by lift truck, equipped with detachable dolly wheels, or bolted to the delivery vehicle.

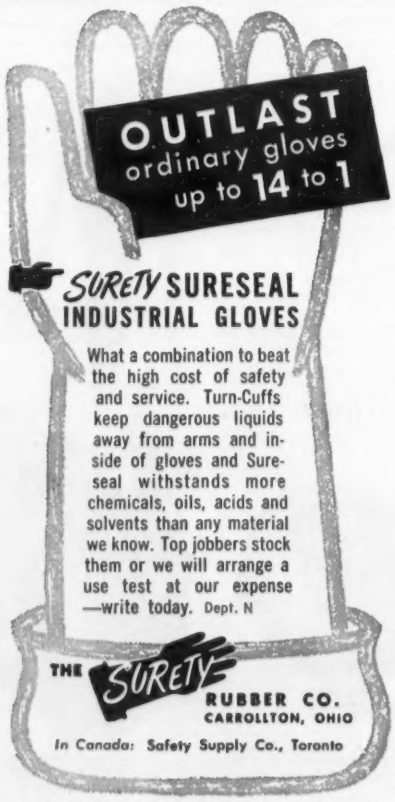
Product can be covered with a Thermovac envelope, the air exhausted, and a bag of desiccant sealed within the enclosure to control humidity. Pallet unit is adjustable to weight of equipment and is made in various sizes and capacities. Sale price is $135. Lease rate is $15 per month. When shipped aboard Lyon Van Lines, there is no charge for the pallet. Sales or leases are handled by **Lyon Van & Storage Co.**, Lyon Aircraft Services Div., Missiles Packing Dept., 2701 N. Ontario St., Burbank, Calif.

For more details circle NED-568 B9 on enclosed inquiry slip

PRODUCTION MARKER prints on irregular surfaces

Foot-operated Anderpress production marking machine prints on round, flat, cup-shaped, cylindrical, parabolic, concave, convex, and irregular surfaces, including those parts with projections such as studs and brackets. Printing coverage area is $2\frac{1}{2}$ x $5\frac{1}{2}$ in. Equipment includes printing bed which oscillates from ink pad to printing position, adjustable fixture bed for positioning the parts-holding jigs, and foot pedal with necessary hardware. It will print on metal, plastic, wood, carton board, linen, and other materials. Rubber dies and type, brass dies and type, or rubber and metal logotypes can be used. Photo shows printing being done on a 6 x 9-in. radio speaker. Anderpress can be converted for mechanical foot lever and air cylinder control or electric Micro-Switch and air cylinder control. Made by **Anderson-Stanley Stamp Co.**, 4101 W. Grand Ave., Chicago 51, Ill.

For more details circle NED-569 B9 on enclosed inquiry slip



For more details circle NED-570 B9 on enclosed inquiry slip

ARCOS WELDING FACTS

Save Time and Money on Stainless Semi or Automatic Inert Gas Arc Welding

Arcos Stainless Spooled Wire helps end a host of costly time-consuming welding problems. Its clean, uniform finish gives better conductivity and arc stability. Level-layer-wound reels feed smooth and easy. And Arcos quality—a byword in the industry—leads to improved performance . . . sounder, more uniform welds.

FREE STAINLESS APPLICATION CHART

Send today for this chart on Stainless Welding Rods and Bare Electrodes. Complete data including typical analysis information.

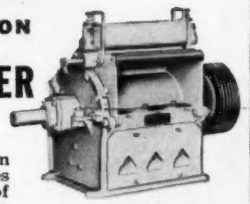
Arcos Corporation, 1500 S. 50th St., Philadelphia 43, Pa.

Arcos | Filler Metal Specialists

For more details circle NED-571 B9 on enclosed inquiry slip

FOR GRANULATING **UNIFORM PARTICLES** IN LARGE VOLUMES!

SPROUT-WALDRON ROTARY KNIFE CUTTER



Write for Bulletins 141 & 101

The Sprout-Waldron Knife Cutter produces granular particles of more uniform size than is obtainable through most other types of machines . . . at great capacities. Unique arrangement of knives and screens assures clean-cut uniform particles. Customary frictional heat is reduced. Ideal for pre-cutting rags or leather . . . flocking continuous strips of alpha pulp . . . granulating cork or thermoplastic stock . . . and for hundreds of other uses.

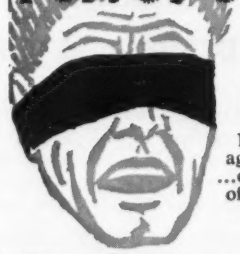
For all other problems, too, involving single or combined phases of size reduction, Sprout-Waldron has your one best answer. Complete lines of crushers, hammer, roller, and attrition mills, and equipment for feeding and removing materials from these units are available. And our long years of experience in planning and designing size reduction installations are at your service. Write for details.

SPROUT-WALDRON
Manufacturing Engineers Since 1866
LOGAN STREET • MUNCY, PA.
EQUIPMENT FOR SIZE REDUCTION—MIXING & BLENDING — BULK MATERIALS HANDLING — PELLETING & CUBING — PRODUCT CLASSIFICATION

IN/501

For more details circle NED-572 B9 on enclosed inquiry slip

Terror of Darkness Need Not Happen in Emergencies!



Protect your plant and your personnel against the hazards of sudden blackouts ...especially during those first 60 seconds of terror-striking pitch blackness. Install BIG BEAM Automatic Lights—NOW!

Big Beam Automatic EMERGENCY LIGHTS
With Built-In Automatic Chargers

Model 2ATW plugs into lighting outlet. Gives instant light automatically whenever regular current fails. Available with either 25, 30, 40, 80 or 100 ampere hour glass jar batteries.

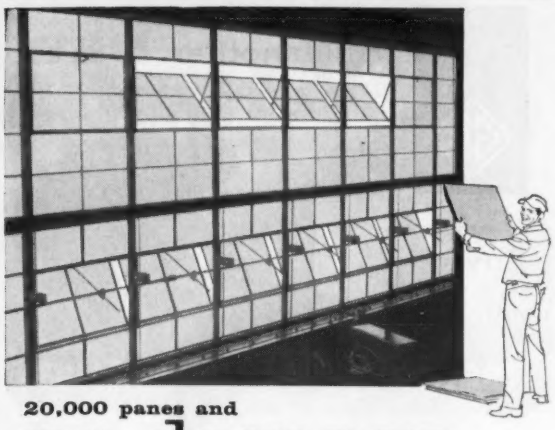
Other BIG BEAM LAMPS

Model No. 287EX Explosion-Proof Hand Lamp | Model No. 108F Flashing Flare Beacon | Model No. 164 Sealed Beam Beacon Lamp

Write for Complete Information 7026

U-C-LITE MFG. CO. 1073 W. Hubbard St., Chicago 22, Illinois
CANADA: Bernard Marks & Co., 70 Claremont St., Toronto 3, Ontario

For more details circle NED-573 B9 on enclosed inquiry slip



20,000 panes and

no damage...

when Firestone glazed with Structoglas

Hurricanes in Cuba, earthquakes in the Philippines, vandalism in the States made glazing replacement a frequent expense for Firestone's far-flung plants. Easy-to-install glazing of shatterproof Structoglas stopped breakage, let in natural light without harmful ultraviolet. Eliminate costly breakage in your plant. Glaze *once and for all* with Structoglas.

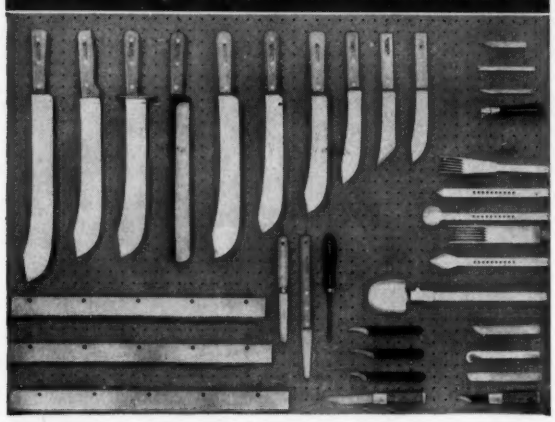
5803

Write for Detailed Literature **structoglas®**

STRUCTOGLAS DIVISION
International Molded Plastics, Inc., Dept. NE2, Cleveland 9, Ohio

▲ For more details circle NED-574 B9 on enclosed inquiry slip ▲

HYDE *Sharp* RUBBER KNIVES



ALL SIZES AND TYPES FOR EVERY RUBBER CUTTING AND TRIMMING NEED

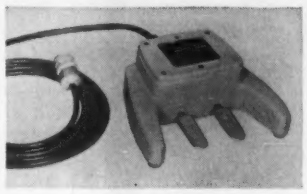
WRITE FOR FREE 50 PAGE BOOKLET

HYDE MANUFACTURING CO.
SOUTHBRIDGE, MASS., U.S.A.

HYDE PRODUCTS FOR INDUSTRY

▲ For more details circle NED-575 B9 on enclosed inquiry slip ▲

FOOT SWITCHES of explosionproof design



All electrical contacts of explosionproof footswitches are contained within the cast aluminum bodies. Suited for operation of electronic and electrical equipment in the presence of explosive gases, they are UL-approved for Class 1, Group C and D use. Both single and double pedal models have UL-approved Type S flexible line cords and can be furnished stripped or with various connectors. Rating is 15 amp per switch on 125-v ac. Made by **Birtcher Corp.**, 4371 Valley Blvd., Los Angeles 32, Calif.

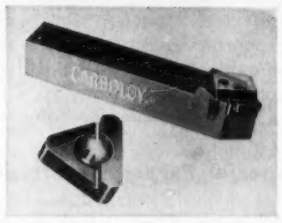
▲ For more details circle NED-577 B9 on enclosed inquiry slip ▲

HEAVY DUTY CASTER swivel type has low height

Top plate and yoke of the HiLoad swivel caster are high carbon steel drop forgings, with the large king pin an integral part of the top plate forgings. Heavy structural steel legs are welded to the swivel yoke. It is usable on trailer trucks, portable machinery, and other heavy equipment requiring a low over-all height caster. Large precision steel balls carry the load. Side thrust is absorbed by a Timken tapered roller bearing over the king pin. Caster is adjustable for swivel tension and thrust resistance. A grease fitting in the yoke lubricates both raceways. Caster, with a companion rigid model, is offered in 6, 8, and 10-in. diameters and several floor-protective wheel types. Made by **Divine Brothers Co.**, Seward Avenue, Utica, N. Y.

▲ For more details circle NED-578 B9 on enclosed inquiry slip ▲

CONVERTIBLE TOOLHOLDER SEATS extend standard holder capacity



Standard triangular insert toolholders are quickly converted into universal-type holders with these convertible seats. One toolholder can use up to four different inserts for light, medium, or heavy cutting, for roughing or for finishing. Nine convertible seats are offered to adapt Lift-O-Matic toolholders for inserts 3/8 through 5/8 in. down to smaller sizes or other thicknesses. Made by **General Electric Co.**, Metallurgical Products Dept., Box 237, Roosevelt Park Annex, Detroit 32, Mich.

▲ For more details circle NED-579 B9 on enclosed inquiry slip ▲

There's a right time for down-time!

Plan your maintenance with **Hobbs** INDUSTRIAL HOUR METERS

- Get information needed for on-time performance of planned maintenance.
- Obtain data on machine use to determine scheduling or purchase of capital equipment — precision machine tools, etc.
- Set up a sound basis for rental and leased equipment.
- A true timing instrument — not a revolution counter. Indicates operating time in hours and minutes.

Distributors in Principal Cities. WRITE FOR CATALOG 600

Symbol of SW Excellence — *John W. Hobbs Corporation*
A Division of STEWART-WARNER CORPORATION
2055 YALE BLVD., SPRINGFIELD, ILLINOIS

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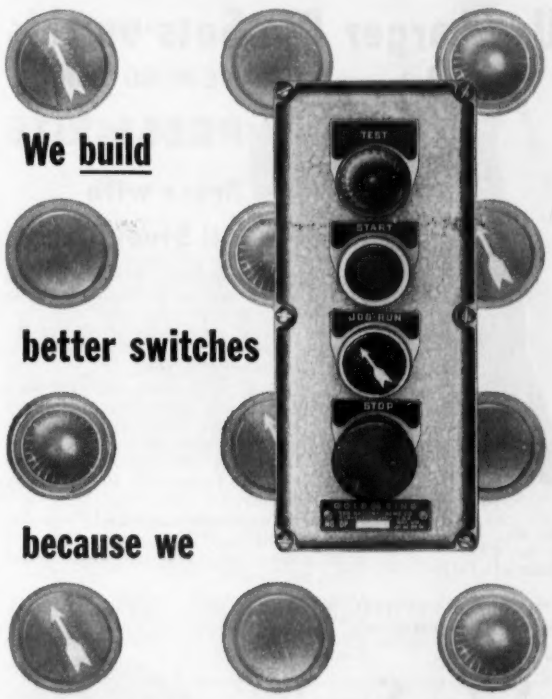


We build better switches because we can't buy them...

It's as simple as that... and they cost no more than other switches

We had to build Gold-N-Ring Control Switches to meet our own high reliability specifications . . . our reputation was a part of this important fact. We're machine tool builders. We can't afford to be responsible for costly down-time on important capital investment equipment due to inferior control switches. That's why we build them like precise machine tools . . . and why it will pay you to check with us.

A wide range of basic units meets practically every need . . . as well as completely assembled stations in 1 to 4 button sizes to meet your electrical specifications. Ask our representative to call, or send for Bulletin ECS-56 . . . the complete selection and ordering guide.

◀ **Limit Switches.** A full line, used wherever the highest reliability factors are required. Bulletin EM-51.

Solenoids. A full line of standard and custom units for AC or DC. Bulletin EM-52A. ▶

ELECTRICAL MANUFACTURING DIVISION

National Acme

THE NATIONAL ACME COMPANY
182 E. 131st STREET
CLEVELAND 8, OHIO

▲ For more details circle NED-581 B9 on enclosed inquiry slip ▲

MODEL CI-5
Easily portable or may be suspended on swivel-type brackets. Has rubber bumpers on base.

NEW ELECTROMODE *All-Electric*

COMMERCIAL and INDUSTRIAL HEATER

CAPACITY To Meet The Needs of Industry
Model CI-5—5 KW—17,075 BTU
Model CI-10—10 KW—34,150 BTU

APPEARANCE To Meet The Public
Styled Like Electromode Modern Domestic Line
Tutone Gray and Ivory Baked-on Enamel Finish

This new Electromode Heater is specifically designed for quick, comfortable warmth in stores, "gas" stations, offices, and similar places where its handsome appearance and quiet operation are an asset. Simple plug-in operation is permitted since the heater has a built-in thermostat. Also made in non-automatic models. The CI-10 model (*not illustrated*) is basically two 5 kilowatt units fixed side by side, each retaining its thermostatic control. By setting one thermostat higher than the other on this model, only half the unit need be placed in operation, drawing a lower current load. When temperatures demand it, the other unit automatically cuts into operation.

SAFE!

The C and I Heaters have the exclusive Safety Grid heating element, giving them the complete safety for which Electromode heaters have been famous for more than 30 years. No danger of fire, shock or burn.

ELECTROMODE
Division Of
COMMERCIAL CONTROLS CORPORATION

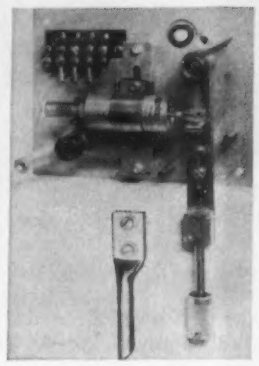
WRITE TODAY For:
New literature with complete specifications, description, illustrations, and installation instructions.

Dept. NED-59
570 Culver Road, Rochester 3, N. Y.

▲ For more details circle NED-576 B9 on enclosed inquiry slip ▲

▲ For more details circle NED-582 B9 on enclosed inquiry slip ▲

ELECTRONIC EDGE CONTROL
positions moving strip to 0.001 in.



Edge position of moving strips or sheets of paper, textiles, oilcloth, glass, and metals can be aligned to within 0.001 in. by this Atcotran edge guide control which exerts only 1/4 oz of pressure. Finger-type and roller bearing contacts are available for detection of alignment variations up to 2 1/4 in. System's null balance circuit is stable under normal variations in temperature, humidity, or line voltage supply. Mechanical pickup is connected to a servo-controlled hydraulic system in which an output signal is fed through an electronic amplifier to a servo motor positioning a hydraulic valve. Made by **Automatic Timing & Controls, Inc.**, Dept. 211, King of Prussia, Pa.

▲ For more details circle NED-585 B9 on enclosed inquiry slip ▲

CABLE TRAYS
of extruded aluminum or formed steel

Standard widths of 6, 9, 12, 16, 20, and 24 in. and straight lengths of 12 and 24 ft are available in line of cable ways made of extruded aluminum alloy or

hot dip galvanized formed steel. Horizontal and vertical bends of 15, 30, 45, 60, and 90 degrees have 12 or 24-in. inside radii. Crosses, Y-branches, tees, reducers, supporting ells, tee joints, end plates, and drop-outs complete the line. Trays have 4-in. deep sides and cross rungs set at the bottom on 9-in. centers to support even small cables and allow entry or drop-out of cables between the rungs. Made by **Husky Products, Inc.**, 5300 Vine St., Cincinnati 17, Ohio.

▲ For more details circle NED-586 B9 on enclosed inquiry slip ▲

Special Purpose Electrodes

Lincoln Electric Co.—20-page Bulletin 7000.2 is a catalog and procedure guide for Lincoln manual arc welding electrodes for hardsurfacing and for welding stainless steels, nonferrous metals, and cast iron. Properties and applications, and how-to-use information is given for each electrode. Charts aid selection and give welding machine settings.

▲ For more details circle NED-587 B9 on enclosed inquiry slip ▲

Still another NEW Variac®

10-Ampere Type W10

All of the new features of the "W" line, including exclusive DURATRAK contact surfaces. The 115-volt models rated at 1.5 KVA (13 amperes maximum current). Available in 115- and 230-volt units, single or ganged, open or cased, with or without ball-bearings and motor drive; in cased portable models with 2- or 3-wire cord.

Write for Complete Data

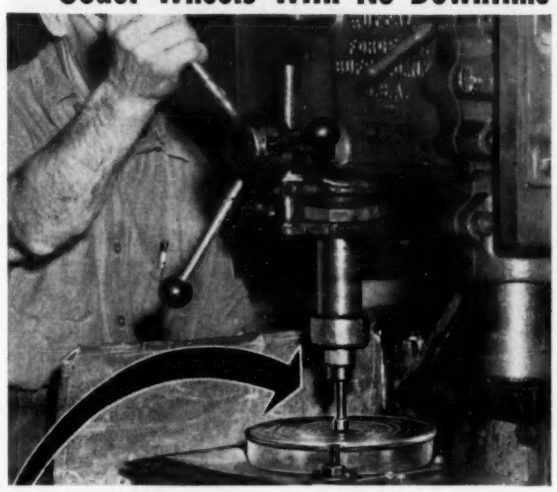
GENERAL RADIO Company

275 Massachusetts Avenue, Cambridge 39, Massachusetts, U.S.A.

Broad Avenue at Linden, Ridgefield, N. J. NEW YORK AREA — 1000 N. Seward St. LOS ANGELES 38
8055 13th St. Silver Spring, Md. WASHINGTON, D. C. — 1150 York Road, Abington, Pa. PHILADELPHIA
1182 Los Altos Ave., Los Altos, Calif. SAN FRANCISCO — 6605 W. North Ave., Oak Park, Ill. CHICAGO
In CANADA: 99 Floral Parkway, TORONTO 15

▲ For more details circle NED-589 B9 on enclosed inquiry slip ▲

One Hoffman Bit Drills Up to 15,000 Godet Wheels With No Downtime



Up to 15,000 Godet Wheels drilled with center hole tolerance 1.5 min. to 1.53 max.—with one Hoffman Laboratory Bit. Actual production figures that are being duplicated by many Hoffman Bit users for precision drilling of glass, ceramics, quartz, etc. Diamond impregnated or oriented surface set.

Write for Illustrated Literature and Prices—FREE

HOFFMAN BROS. DRILLING CO.
SINCE 1902
106 Cedar Street PUNXSUTAWNEY, PENNA.

▲ For more details circle NED-590 B9 on enclosed inquiry slip ▲

Use Larger Die Sets on this NEW 40 Ton PRESS-RITE Press with All Steel Frame

No. 40, 40 Ton, O.B.I. PRESS-RITE PRESS.

For details ask your PRESS-RITE Dealer or write direct.

Generous ram area, large bed area and extra depth of throat are possible through the use of an all steel frame that's heavily reinforced at all vital points for maximum rigidity.

Many jobs such as die cast trimming, electronic work, etc. that have had to be run on larger presses can now be put on this new 40 Ton PRESS-RITE O.B.I. Press with its extra die space.

STANDARD EQUIPMENT includes 3" stroke, patented PRESS-RITE automatic brake, 4 point sliding key clutch and single stroke safety mechanism.

OPTIONAL FEATURES include longer or shorter stroke, greater shut height, back gearing, PRESS-RITE Airflex Air Friction Clutch and others.

Sales Service Mfg. Co.
PRESS-RITE DIVISION
2365 UNIVERSITY AVE. ST. PAUL 14A, MINN.

▲ For more details circle NED-583 B9 on enclosed inquiry slip ▲

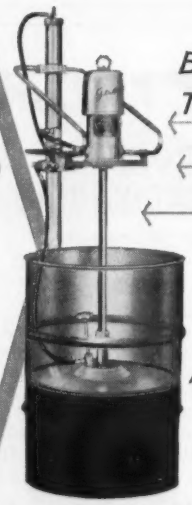
Campbell *

TAGS TAGS
for inventory
TAGS
for shipping
TAGS TAGS TAGS
for identification
TAGS TAGS

* Campbell Box & Tag Company
Main & New Streets, South Bend 23, Ind.

▲ For more details circle NED-584 B9 on enclosed inquiry slip ▲

Transfer "STICKY" STUFF "Direct-from-Drum" To Job!



NEW Better Way To Transfer
Adhesives
Foods
Sealers
Plastics
Putties
And 100's of other hard to handle materials.
Cleans your drums at the same time!

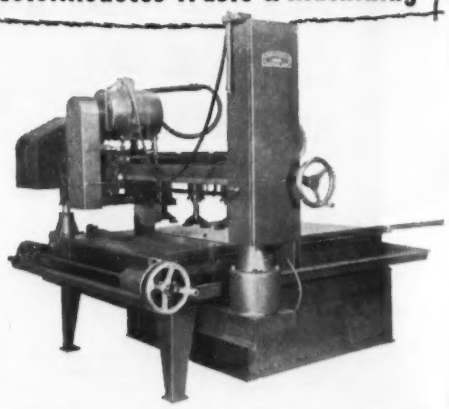
● This new, air-operated pump and forced induction plate completely seals in the material, prevents contamination, spillage, channeling and waste. Eliminate slow hand operation and messy transfer of difficult material!

You paid for all of it . . . now get all of it! Graco Inductors move from top to bottom, scrape drum sides entirely clean, get *all* material from drum. Sizes for 55 gal. drum, half drum or 5 gal. pail. Write today for details!

GRACO "DIRECT-FROM-DRUM" PUMPS
GRAY COMPANY, INC.
27 Graco Square • Minneapolis 13, Minnesota
FACTORY BRANCHES: New York (Long Island City) • Philadelphia • Detroit
Chicago • Atlanta • Houston • San Francisco
SALES OFFICES: Washington • Toronto

▲ For more details circle NED-588 B9 on enclosed inquiry slip ▲

Precision Saw With Air Clamps Makes Clean Cuts..Reduces Waste & Machining



With this new Ty-Sa-Man 144-BD Saw, adjustable air clamps hold metal down while the saw travels down the machined transverse rail, delivering cuts with smooth edges to amazing tolerances. Cut parallel strips . . . handle difficult jig fixture work with this self-contained saw which has its own integral cooling system and tank. Among its features are a calibrated guide fence, infinite variable speed from zero to twenty FPM, push-button control and 15 HP motor.

FREE BROCHURE
TY-SA-MAN Machine Co., Inc.
550 White Ave., Knoxville, Tenn.

▲ For more details circle NED-591 B9 on enclosed inquiry slip ▲

FREE!

20-PAGE ILLUSTRATED BROCHURE ON FULLER ROTARY COMPRESSORS

Full details on sizes, capacities, applications of these vibrationless, compact, efficient compressors. Illustrated case histories of maintenance-free operation point the way to lower costs for you. *Send today for this valuable brochure!*

1182
C-339

Fuller ....pioneers in harnessing AIR

FULLER COMPANY
154 Bridge St., Catasauqua, Pa.
SUBSIDIARY OF GENERAL AMERICAN TRANSPORTATION CORPORATION
Birmingham • Chicago • Kansas City • Los Angeles • New York • San Francisco • Seattle

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SPECIAL GEAR BOXES

Announcing a new Sewall Service

Designing . . . Development . . . Manufacturing . . . to help solve your special gear box problems. We're ready to work with you at any stage of your project's development. From scratch . . . we'll design your gear boxes . . . just give us your basic idea. From your prints . . . let us submit our quotation on your requirements. We invite your inquiry . . . check Sewall Service today.

Complete gear service . . . custom made gears . . . made-to-order sprockets . . . special gear racks—to order . . . standard gear racks in stock

SEWALL GEARS

E. B. SEWALL MFG. CO., Dept. D
705 Raymond Ave., St. Paul 14, Minn. Midway 5-7721

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MOTORS BUILT by BORG

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Reliable motors for your precision equipment! Excellent performance records on industrial television, medical equipment, timing devices, many other instrument applications. 3600 to less than one R.P.M. Synchronous or induction. 2-Pole or 4-Pole. With or without gear trains. Write for complete data today.

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BORG EQUIPMENT DIVISION
Amphenol-Borg Electronics Corporation
JANESVILLE, WISCONSIN

MOTORS
MICROPOTS
MICRODIALS

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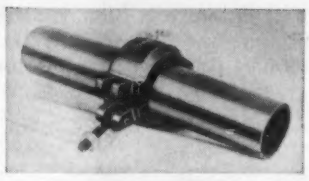
SWING-BOLT COUPLING for joining grooved-end pipe



One man can apply the gasket, put the housing in position, swing the bolt closed, and tighten the single nut in minutes when the Alumiron swing-bolt malleable iron coupling is used to join grooved-end pipe. It cannot snap open, and its knock-out pins permit reuse of parts. The 1, 2, 3, and 4-in. sizes sell for $1.67, $2.26, $3.55, and $4.70, respectively. Made by **Charles E. Manning Co.**, 4700 Clairton Blvd., Pittsburgh 36, Pa.

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ALUMINUM HAND TRUCK has 600-lb capacity, Nylok fasteners

Nylok fasteners, solid live-rubber tires, ball-bearing hubs, and an unbreakable nose plate are features of this aluminum two-wheel hand truck. Truck has 600 lb capacity and is available in 169 different models. Fasteners cannot shake or vibrate loose, yet can be easily removed and retightened to original torque. Hubs are machined to eliminate eccentricity and are equipped with grease fittings. Bearings are protected by labyrinth seals. Made by **F. H. Langsenkamp Co.**, 229 E. South St., Indianapolis 25, Ind.

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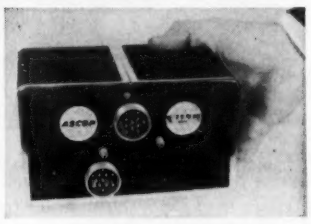
MINIATURE OSCILLOGRAPHS have multichannel handling capacity



Simultaneous handling of six continuous analog data channels plus three on-off channels for timing and event marking is scope of this line of miniature oscillographic recorders. Accuracy exceeds 1 per cent. Typical model weighs 3½ lb, measures 6½ x 4¾ x 4 in., and provides a continuous running time from 1 min up to a maximum of 50 hr. Their output is a series of continuous light-beam traces which are recorded against a built-in time base on photographic paper. Transducers which supply the inputs are precalibrated, permitting quick read-out and interpretation of the output trace without computation. Both internal and external transducers are available. Oscillographs and recording elements are operated from nominal 28 v dc. Assembled by **Applied Science Corp. of Princeton**, Box 44, Princeton, N. J.

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NAMES IN THE NEWS!

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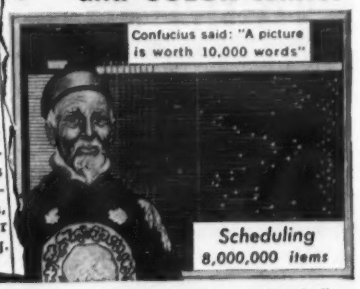
Missile Development Centers are among the largest Government Defense users of Produc-Trol for research, production, manpower and other types of scheduling.

PRODUC-TROL Visual Control
not only schedules, But automatically checks with TIME, LINE and COLOR control



- Original cost and upkeep low.
- Schedules and time checks operations.
- Historical record to back it up.
- Bad situations show automatically.
- Its simplicity has put it into world-wide use.
- Analyze 100 items in 10 seconds.

Creator of Effective Tools for Effective Management

Phone Westport, Conn. CA 7-4111 or write
WASSELL ORGANIZATION, INC.
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ADDRESS .....
CITY ..... STATE .....

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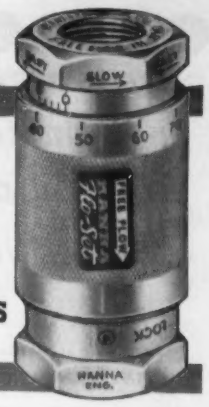
The answer to precision speed control

HANNA Flo-Set Speed Control Valves



■ For precision control of cylinder speeds, Hanna offers a line of Flo-Set Valves ¼", ⅜", ½" and ¾". Micrometer graduations in hundredths of a revolution permit precision regulation of flow. Speeds of forward and reverse piston strokes may be independently controlled. For light piping and tubing, there's a ¼" Flo-Set Jr. Valve, without micrometer markings.

Hanna Flo-Set Valves are suitable for air, oil or water control, with maximum pressure to 250° p.s.i. and temperature to 250° F. They may be mounted in any position.

WRITE FOR FREE NEW BULLETIN 253A
It gives complete details and specifications on Hanna Flo-Set Valves.

Hanna Engineering Works
HYDRAULIC AND PNEUMATIC EQUIPMENT • CYLINDERS • VALVES • RIVETERS
1748 Elston Avenue • Chicago 22, Illinois

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Pacific Coast: National Screw & Mfg. Co. of California
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WITH *Guaranteed* Bahnson UNIT HUMIDIFIERS

Self-Contained Units Have Low First Cost, Low Operating Cost

with high capacity, automatic controls, units are designed for any size plant or area. They can be installed singly or in groups and require no floor space, minimum maintenance.

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Sealed and pre-lubricated McGILL CAMROL® bearings

Protect your roller follower applications for longer life with sealed CAMROL bearings. McGill packs high load capacity, precision accuracy, and positive seals into standard bearings. Avoid building up special units. The SCF series is complete with integral stud. In the SCYR series an inner race provides for shaft mounting. Black ferrous oxide finish adds corrosion resistance. Roller diameters range from ¾" to 4".

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engineered electrical products — McGILL® — precision needle roller bearings

McGILL MFG. CO., Bearing Div., 101 N. LAFAYETTE ST., VALPARAISO, IND.

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5 maintenance products... that will save you money

Where ordinary oils, greases and solvents don't fill the bill... for those important spots that need a *special* lubricant... Houghton has the answers.

Here are just a few examples of Houghton's complete family of new and different lubricants for special applications.

NEW HI-TEMP OILS AND GREASES

For conveyors, heaters, ovens and kilns—New, synthetic lubricants that are effective in temperatures up to 1000°F. Three series for all needs.

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A special air line lubricant for pneumatic systems that keeps tools and equipment operating at top efficiency, longer.

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To make water hydraulic systems work better (mixed 1 part to 1000 parts of water). Economical *Hydrolubric* prevents rust and pitting, reduces wear, increases packing life and increases efficiency of pumps and valves.

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To clean gummy hydraulic systems without shutting down. Add 5% *Gum Solvent "B"* to present hydraulic oil, run 100-150 hours, then drain and fill with fresh oil. All gum and sludge is completely cleaned out.

HOUGHTO-SOLV

To remove sludge from heating systems without costly hand cleaning. Houghto-Solv actually makes sludge burnable, helps prevent rust and new sludge formations.

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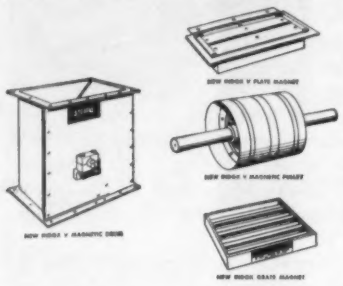
TRAMP IRON SEPARATORS utilize ceramic permanent magnets

Barium ferrite, a ceramic material pressed under great pressure and permanently magnetized, forms the Indox ceramic permanent magnet used in this line of tramp iron separators. The Indox V magnetic pulley type for installation at the head of the belt conveyor system has a radial magnet assembly. Grate magnet unit, installed in hopper or floor opening, chute, or duct, has collecting tube with continuous magnetic poles. The Indox V magnetic drum for use where granular materials are conveyed in enclosed chutes and spouts has a revolving stainless steel cylinder inside a housing which carries material over the stationary magnet assembly. Also offered is an Indox V plate magnet for trapping iron particles in material flowing in chutes, ducts, spouts, or on conveyors. Made by **Stearns Magnetic Products**, 635 S. 28th St., Milwaukee 46, Wis.



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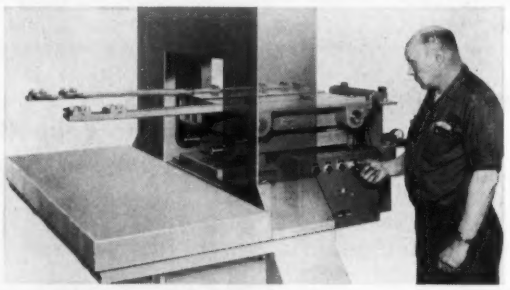
PRESS TRANSFER FEED moves strip stock or parts into and out of press die automatically

Any single-action press can be converted into a transfer feed press with the Trans-Feed, a compact unit which will feed strip stock or parts into and out of

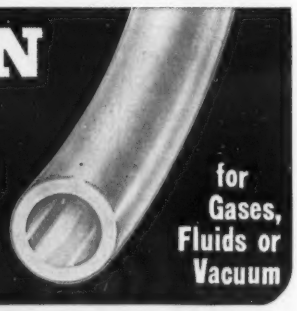


press die areas automatically. It can feed material between dies in a press, or transfer and feed two or more presses in a line. Unit bolts on press bolster plate and can be moved from one press to another, due to lightweight cast aluminum construction.

In operation, fingers on parallel horizontal arms move toward each other to grip part. Arms then advance the part into the next die or station. Part is released and arms retract to start position. One or more pairs of fingers are mounted on the arms according to number of operating stations. Plug-in side control panel permits press controls to be tied in electrically with the feed unit for operation in sequence. Made by **Press Automation Systems, Inc.**, 25418 Ryan Rd., Warren, Mich.

▲ For more details circle **NED-605 B9** on enclosed inquiry slip ▲

TYGON Flexible Plastic TUBING



for Gases, Fluids or Vacuum

For liquids, gases or semi-solids — corrosive solutions — full vacuums or pressures to 300 psi., Tygon* Tubings handle the job better.

Tygon Tubing is light weight and flexible, easier to handle. It is tasteless, odorless, non-toxic and non-contaminating — safe for foods and beverages. It is resistant to acids, alkalies, oils, water and alcohol. The highly polished bore permits faster flow rates and simple flush cleaning. It may be steam sterilized.

Heavy wall Tygon is available for vacuum service. Mesh reinforced Tygon withstands pressures to 300 psi. Sizes from 1/16" i.d. to 3" i.d.

*T.M. Registered

202-E PLASTICS AND SYNTHETICS DIVISION

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U. S. STONEWARE AKRON 9, OHIO

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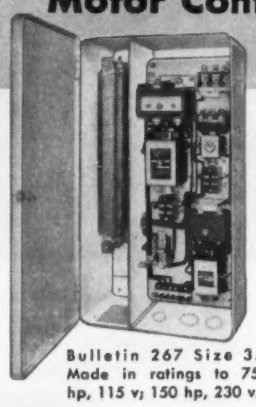
ALLEN-BRADLEY makes Quality D.C. Motor Control, Too!



Bulletin 267 Size 3. Made in ratings to 75 hp, 115 v; 150 hp, 230 v.

Here's just one of the heavy duty starters in Allen-Bradley's complete line of d-c motor control—Bulletin 267 automatic reduced voltage starter. Send for details on this and other Allen-Bradley d-c starters. They *all* carry the Allen-Bradley trademark of *quality*.

A-B QUALITY

Allen-Bradley Co.
1334 S. Second St., Milwaukee 4, Wis.
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ALLEN-BRADLEY MOTOR CONTROL QUALITY

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DOUBLE CHAIN LIFE!

Here's the *low-cost answer to chain breakdowns* caused by link-wear, stretch, corrosion and friction. OIL-RITE Chain Oilers feed oil by gravity through solenoid and sight feed valve to brush which rides the chain. Solenoid *starts and stops with driving motor*, making operation automatic, oiling only when chain moves. Drop feeding adjustable. 9 oz. — 1 gal. in capacity with brushes to suit your chains.

GIVE YOUR PLANT ALL THESE BENEFITS!
- Safe, sure chain lubrication
- Reduce chain wear
- Eliminate costly hand oiling
- Cleaner, less hazardous floors

Many styles of Electro and Manual Chain Oilers available. Write for Free Bulletin.

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2364 WALDO BOULEVARD
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Oil Cups • Dispensers • Oiling Systems • Valves • Oil Gages • Chain Oilers

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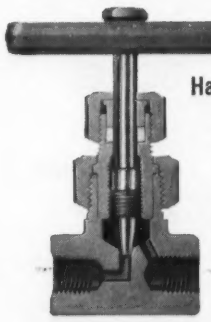
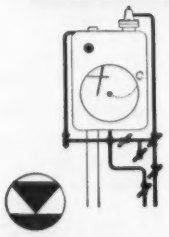
for dependable field service

SPECIFY AMERICAN® NEEDLE VALVES



Handle the toughest meter manifold jobs and corrosive field services. Eliminate gland leaks.

Teflon-packed forged steel American® Needle Valves deliver year 'round dependable service—stand up under all conditions. Stainless or carbon steel precision machined valve bodies are ideally suited for welding. Stainless steel centerless-ground valve stem design makes it simple to repack valves under pressure.



Standard valves are design rated for pressures to 5,000 psi at 70°F. Upon request, assembled valves are hydrostatically tested to 10,000 psi (twice rated working pressure) and individually inspected. Valves are also furnished with graphite-impregnated asbestos packing for temperatures above 450°F.

Angle or straight patterns — screwed or union bonnets.

Ask your American Meter representative for full details.

AMERICAN® METER COMPANY INCORPORATED ESTABLISHED 1836

Executive Offices: Philadelphia 16, Pa. Sales offices in principal cities.

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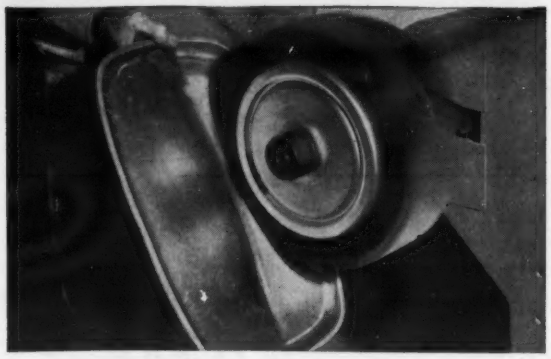

FOR A FAST, EASY, ECONOMICAL FINISH

The Vonnegut Brush-Backed Polishing Head is an indispensable item for finishing, be the problem a decorative satin, pre-buff operation or surface preparation for paint. The Vonnegut Head will clean, sand, blend, polish and deburr a variety of materials—wood, rubber, plastics, ferrous and nonferrous metals—both plain and contoured surfaces. Ask for Price List and Bulletin No. 102.

Grinding and Polishing Machinery Corp.
SUCCESSORS TO VONNEGUT MOULDER CORPORATION

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for as little as $22.00 COMPLETE IN U.S.A.

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'TRICO-MIST' COOLANT SYSTEM

For drilling, tapping, milling, sawing, grinding, etc. Removes heat from cutting edges of tools and work. Feeds can be increased considerably, finer finishes and accuracy are obtained. TRICO-MIST absorbs heat, thereby quenching it faster than flood coolants which only transfer it. Chips slide freely up the tool face and are blown away automatically.

Simple needle valve controls size and volume of mist spray. Attaches to shop air line. Available with one and five gallon containers — single or multiple outlets — single or dual valve control.

GET FACTS

SEND FOR BUL. 37

TRICO FUSE MFG. CO. MILWAUKEE 12, WIS.

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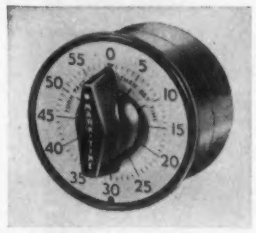
UNBREAKABLE MAINSPRING for mechanical timing devices



Special steel alloy used in the mainsprings of Mark-Time mechanical timing devices renders them unbreakable. Now available in most timer models, the springs combine corrosion resistance and long life with a tensile strength exceeding 200,000 psi, even under abnormally hot or cold operating conditions. Made by **M. H. Rhodes, Inc.**, 30 Bartholomew Ave., Hartford 6, Conn.

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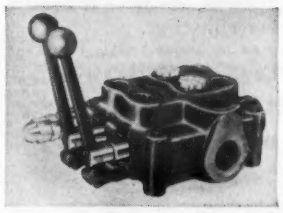
HYDRAULIC CONTROL VALVE rated at 40 gpm and 1500 psi



Model WP hydraulic valve is adaptable to various control systems, including those on dump trucks, loaders, and lift trucks. It is rated 40 gpm and will operate easily up to its maximum 1500 psi. One-spool and two-spool types are offered. Featured are balanced, self-centering, hardened, and plated spools; built-in cartridge type adjustable relief valve; and optional handle positions 180 degrees apart. Standard models are open-center types with choice of three or four-way spools. They have a 1-in. side inlet, 1¼-in. side outlet, and ¾-in. cylinder ports. Available modifications include closed centers, detents, free flow, and "power beyond" porting. Made by **Gresen Mfg. Co.**, 405 35th Ave. N.E., Minneapolis 18, Minn.

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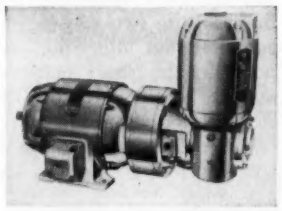
MULTIPLE DRIVE PACKAGE in speed reductions to 100:1



Typical applications for this Multi-Drive Motoreducer package are on cranes, hoists, and conveyors, as well as other installations where operating cycles vary from delicate, precise movement to fast operating speed. Package consists of a primary motor and a Motoreducer connected by a direct-current clutch and using a common drive shaft. Unit shown is used on a screw conveyor bag filler. Primary motor turns the screw for high-speed (1800-rpm) filling to 92 per cent container capacity. The 128-rpm Motoreducer cuts in for final, precision filling. Units are tailored to specific needs. Ratings from ½ through 40 hp are offered. Made by **Reuland Electric Co.**, Mission & Fremont, Alhambra, Calif.

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Measures Nonmagnetic Coatings with ± 5% ± .0001" accuracy

NEW pocket-size THICKNESS GAUGE

ELCOMETER measures thickness of porcelain enamel, paints, platings, foils, glass, paper, plastics, and other nonmagnetic coatings quickly and accurately. Gauges flat or curved surfaces and hard-to-get-at spots easily. Needle locking device assures correct reading every time. Complete with tough leather case containing inner pocket for test strips. Weighs only 6 oz. Completely self-contained.

FREE TRIAL. Ask your purchasing agent to order an Elcometer on trial basis. Retail price, F.O.B. Cleveland **ONLY $75.00**

FERRO

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4151 East 56th Street • Cleveland 5, Ohio

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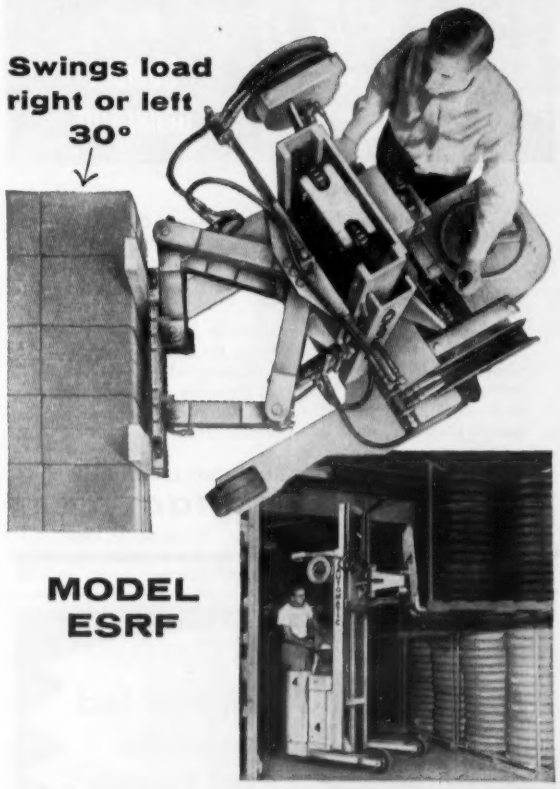
AUTOMATIC

Introduces New "Triple-Action" Transveyor



Lifts, reaches, swings...does fast, efficient job in space too cramped for conventional trucks.

This Transveyor's unique mechanism permits higher stacking ...better use of storage space. Lifts 130" with 83" mast... literally reaches around corners...swings forks in unison 30° right or left. One control works swing and reach mechanisms together or separately. Handles various-sized skids and pallets on any stacking setup. No space between stacks because base arms don't straddle load. Load-tilt device available as extra feature. Capacities up to 4000 lbs. Convenient lease and budget terms...just fill out coupon.

Cost less to own... less to operate

AUTOMATIC TRANSPORTATION COMPANY
Division of The Yale & Towne Manufacturing Company
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Electric Automatic Industrial Trucks

WORLD'S LARGEST EXCLUSIVE BUILDER OF ELECTRIC-DRIVEN INDUSTRIAL TRUCKS

AUTOMATIC TRANSPORTATION COMPANY
Division of The Yale & Towne Manufacturing Company
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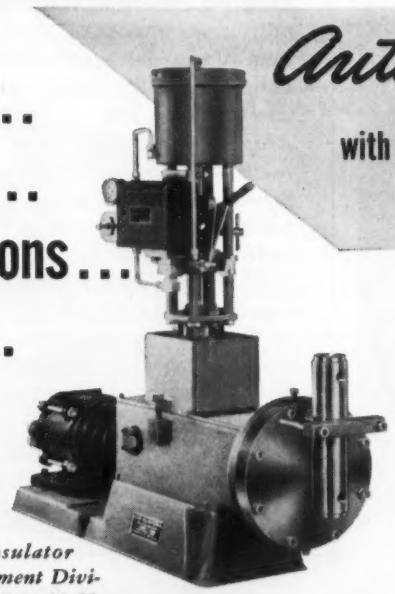
☐ Please rush me complete specifications on your new "Triple-Action" Transveyor, Model ESRF
☐ Include details on lease and budget purchase plans

Your Name_____ Title_____
Firm Name_____
Address_____
City & Zone_____ State_____

▲ For more details circle **NED-617 B9** on enclosed inquiry slip ▲

It Pumps... It Meters... It Proportions... It Feeds...

Automatically... with **NO LEAKAGE! NO CONTAMINATION!**



Lapp Auto-Pneumatic Pulsafeeder makes possible continuous *automatic* processing of liquids which cannot be satisfactorily handled by plunger-type metering pumps. It's a piston-diaphragm pump providing positive displacement without the problems of a stuffing box. A hydraulically balanced diaphragm isolates the liquid from working pump parts, preventing leakage or contamination. Pumping speed is constant, variable flow results from variation in piston-stroke length, controlled by instrument air pressure responding to any instrument-measurable processing variable . . . flow, temperature, pH or weight. Manually adjusted models also available.

WRITE *for Bulletin 440 which gives complete specifications on the full line of Lapp Pulsafeeders. Lapp Insulator Co., Inc., Process Equipment Division, 3306 Poplar St., Le Roy, N. Y.*

Lapp PULSAFEEDER
CONTROLLED-VOLUME CHEMICAL PUMP

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Cut ANY Shape in Metal...

with a BEVERLY THROATLESS SHEAR!

- Capacities to 3/16" in mild steel
- Make clean, knurl-free cuts in any metal to capacity
- High Carbon High-Chrome Blades
- Built to last a lifetime

Here's What a Beverly Can Do!

Cuts made in 18 ga. metal with Model B-1

Model B-3 with Ball Bearing Hold Down

Beverly Shears are the most versatile metal shearing tools you can use. Unique shoulder design permits any cut . . . rack and pinion gives great power with little effort. Alloy steel body for maximum rigidity and strength. Made in 4 models.

Write for illustrated circular —or see your Beverly Distributor.

Beverly SHEAR MFG. CO.
3016 W. 111th Street Chicago 43, Ill.

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Whatever your dry machining process

Economical KETT "Mystic-Lube" Mist Coolant Generator

GIVES YOU . . .

- Faster Operating Speeds
- Longer Tool Life
- Deeper Cuts
- Better Finishes
- Lower Costs
- Flexibility
- Portability
- Dependability

Mist dissipates in the air—cools by refrigeration principle. No special coolants, no moving parts—operates off any air line. Compact, all-in-one unit, one and four gallon size, has features non-available in many higher priced models. Quality designed for quick transfer, ease of maintenance.

KETT

WRITE FOR LITERATURE AND PRICE LIST
THE KETT TOOL CO.
5051 Madison Rd. Cincinnati 27, Ohio

▲ For more details circle NED-625 B9 on enclosed inquiry slip ▲

NOW, hopper-fed headless set screws AUTOMATE SUB ASSEMBLY!

CUT Operational Time 80% to 90%
CUT Floor Area
CUT Floor Waste from 30% to 0
CUT Worker Fatigue

The photo above shows the Syntron vibratory hopper and exclusive Setko orienting device which is the heart of this new system. This orienting device assures 100% correct positioning of set screws as small as #2 (.086" x 1/8") . . . all styles and points. Other Setko innovations include photo-electric cell control of feed flow, air power, and microswitch actuation of the driver.

WRITE TODAY FOR THIS MONEY SAVING INFORMATION

FREE SELECTOR CHART of Self-Locking Set Screws . . . Shows how and where to use over 1,001 combinations.

FREE HOPPER FEED BULLETIN Gives you the complete money saving details on this production increasing system.

FREE ENGINEERING SERVICE Setko has been specializing in solving puzzling Set Screw problems for over 20 years . . .

Let us quote you our advantageous prices.

102RR Set Screw & Mfg. Co. 130 Main Street, Bartlett, Illinois

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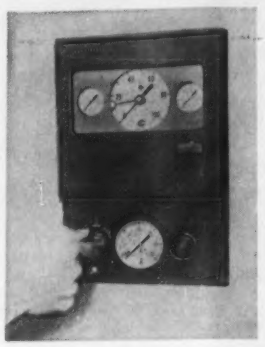
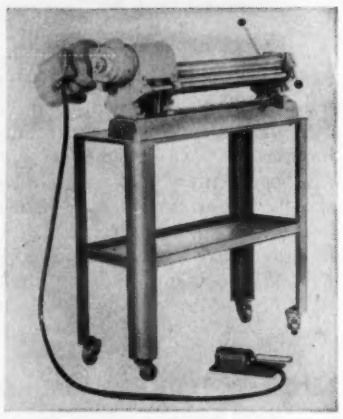
CONTROL BY-PASS
for use with process controllers



This four-position Control By-Pass is offered as an option with the USG Pilot controller which can be used to control temperature, pressure, liquid level, and other process variables. The by-pass gives plant operator the means for cutting off controller air to the valve (or damper) and for positioning the valve manually. The by-pass has, left to right as shown, a four-position air transfer switch with test, manual, auto, and service positions; a 2½-in. dial gage for indicating manually regulated air pressure; and a manual loading air pressure regulator. Made by **American Machine & Metals, Inc.**, U. S. Gauge Div., Sellersville, Pa.

▲ For more details circle NED-627 B9 on enclosed inquiry slip ▲

POWER METAL ROLLER
magnetic brake prevents coasting



Operator of the Di-Acro Power Roller can work to a scribed or hair line without having to compensate for the rolls coasting, as the six power - operated rollers are equipped with a magnetic brake. Direction of the rolls can be switched backward, forward, or stopped at any time by tripping a foot control. Perfect cylinders of any diameter exceeding 2 in. can be formed in sheet material in two passes through the rolls due to the cam-actuated idler roll. Bends can be located at any point in the sheet material with straight sections on one or both sides. Rollers are available in 12, 18, 30, 36, and 42-in. forming widths. Power unit with enclosed housing is mounted on the side frame and connected directly to upper and lower rollers through cut gears. Made by **O'Neil-Irwin Mfg. Co.**, 582 Eighth Ave., Lake City, Minn.

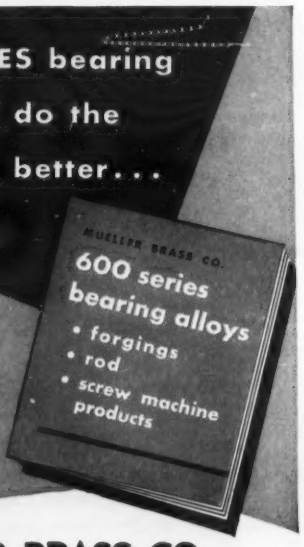
▲ For more details circle NED-628 B9 on enclosed inquiry slip ▲

Thread Comparators

Pratt & Whitney Co.—"Gaging Threads for High Reliability" is a 20-page manual on how and where to use Tri-Roll thread comparators. These easy-to-use gages can be furnished with graduations of 0.0001 to 0.00025 in. Complete specifications are given on gages and their accessories.

▲ For more details circle NED-629 B9 on enclosed inquiry slip ▲

"600" SERIES bearing alloys can do the tough jobs better...



only MUELLER BRASS CO. offers this superior series ...get our complete manual today

MUELLER BRASS CO.
PORT HURON 37, MICHIGAN

please send me a copy of your ENGINEERING MANUAL FM-3000
NAME
COMPANY
ADDRESS

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Never lets go!

AERO-SEAL JET Hose Clamps have a thousand and one shop and maintenance uses for fastening hose, pipe, tubing and other clamping needs. Made of 302-18-8 stainless steel alloy, they last longer. Bands won't corrode. A few turns of the precision worm gear and they're tightly attached for keeps. Yet they can be removed in a jiffy and re-used over and over. Ask your supplier for genuine AERO-SEALS — Jet or regular.

Aero-Seal JET
QUICK-ATTACH HOSE CLAMPS

BREEZE CORPORATIONS, INC. 700 LIBERTY AVENUE UNION, N. J.

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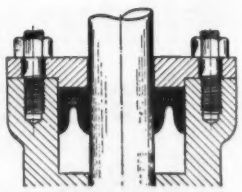
PACKING Chesterton SERVICE

(1) Massive body (2) feather-touch Seal

MONOSEAL
a NEW trouble—free single Ring
HYDRAULIC PACKING

Chesterton MONOSEAL is a new improved hydraulic ram packing adaptable to all stuffing box depths using but one strong single ring. It retains maximum pressures. MONOSEAL gives ***exceptional service*** even under ***adverse conditions*** because of its unique flared lip design and heavy bodied massive construction. The MONOSEAL ring requires ***no adaptor — no reinforcement — no gland adjustment.*** It remains self-adjusting. Its massive design and tough construction withstands excessive press bumping which ruins life of leather U or V type packings. MONOSEAL's feather-touch lips will not weep assuring ***constant maximum operating pressure*** and positive seal whether at maximum pressure or at zero. Costly fluid losses are eliminated.



Cross sectional view.

Chesterton MONOSEAL is immune to water—oil—oil solvents. It will not swell or bind.

"The proof of the pudding is in the eating"—order a trial single Chesterton MONOSEAL ring for your equipment—today! Simply state diameter of ram, diameter and depth of box.

A. W. CHESTERTON CO.
America's Oldest Mfr. of Mechanical Packings
15 Ashland St., Everett 49, Mass.

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use this NEW DURANT MODEL "X"

WHEN

1. The COUNT must be accurate
2. VISIBILITY is very IMPORTANT
3. LONG LIFE is a requirement
4. DEPENDABILITY is demanded
5. DUST and MOISTURE conditions prevail
6. YOUR NEEDS are for MANY
7. COST per unit must be LOW

Exclusive FEATURES . . .
• Single rigid Die Cast Frame • Tongue and Groove Seal against dust seepage • Nylon Drive Parts for longest life • Recessed Window protected from bumps and knocks • Largest, clear-cut, no-squint Numbers

● Developed particularly for design engineers to incorporate in business machines, duplicators, card sorting equipment, hay balers, light press machines and similar equipment.

Send for Bulletin

DURANT MANUFACTURING COMPANY
1922 N. Buffum St. Milwaukee 1, Wis.
22 Thurbers Ave. Providence 5, R. I.
Representatives in Principal Cities

PRODUCTIMETERS SINCE 1879 Count Everything

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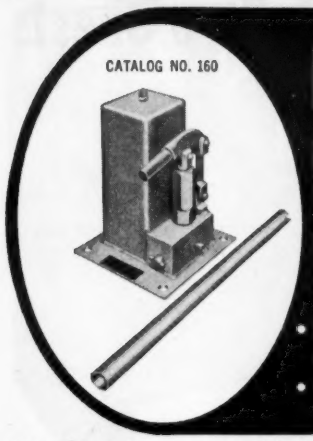
CATALOG NO. 160



Hand Hydraulic Pumps

• Single and Double Designs to 20,000 psi
• With or Without Reservoir

160 cubic inch reservoir with 8"x 8" base plate and 18" long handle.

Available with optional size pistons ⅜", ½", ¾", 1" and 1½".

We specialize in the manufacture of hand pump units which operate in temperatures from −65° F. to +160° F. and with any capacity reservoirs required. Pumps can be furnished on special order with custom seals to handle various aircraft types of fuels such as Pydraul, Skydrol, Oronite, etc.

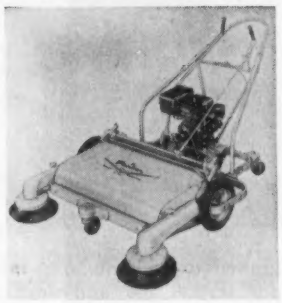
The single pump with ½", ¾", 1" or 1½" piston is now available in stainless steel.

for additional information write:

WILLIAM S. PINE
hydraulic hand pumps for 1001 uses
1635 East 22nd St., Los Angeles 11, Calif.

▲ For more details circle NED-634 B9 on enclosed inquiry slip ▲

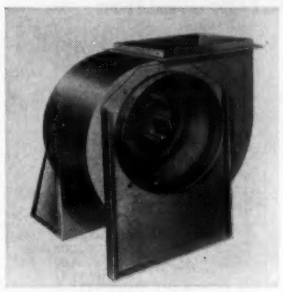
POWER SWEEPER
can cover 50,000 sq ft per hour



Dirt, trash, paper, scrap, and other forms of debris are collected by this motorized floor sweeper, powered by a 1 hp, four-cycle engine. It is available in 20 and 28-in. sweeping widths and can sweep up to 50,000 sq ft per hour. All controls are at hand level, and its hopper is quickly emptied and replaced. Rota-Sweep brushes attach to the sweeper's side to clean next to walls and machines. Each brush adds 6 in. to the sweeping width. Made by **Parker Sweeper Co.**, Box 720, Springfield, Ohio.

▲ For more details circle NED-636 B9 on enclosed inquiry slip ▲

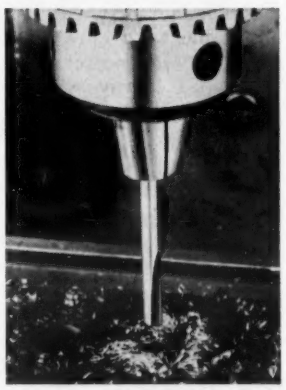
CENTRIFUGAL BLOWERS
in up to 460,000 cfm ratings



Airfoil-shaped blades are used in line of Joy-Centrifoil blowers, available in sizes from 440 cfm at ¼-in. static pressure for single width units to more than 460,000 cfm at 16-in. static pressure. Maximum rating is achieved with double-width, double-inlet fans. Units meet all requirements for commercial and industrial heating and ventilating applications, as well as those of a forced or induced draft nature. Made by **Joy Mfg. Co.**, Oliver Bldg., Pittsburgh 22, Pa.

▲ For more details circle NED-637 B9 on enclosed inquiry slip ▲

CHIP-CUTTING DRILL
does not distort hardened steel



Hi-Rod solid carbide chip-cutting drill does not operate on the "friction" principle, thus it cannot anneal or distort in drilling hardened steel. It uses a flood of water-soluble coolant which permits a feed of up to 2 ipm in 60 Rockwell C material. Tests show it produces accurate on-size holes on a production basis in such hardened sheet materials as Vascojet and Thermold J. Made by **M. A. Ford Mfg. Co.**, 1545 Rockingham Rd., Davenport, Iowa.

▲ For more details circle NED-638 B9 on enclosed inquiry slip ▲

TWO NEW MINIATURE GRIPCO FASTENERS

FOR
• Hard to reach assemblies
• Thin metal applications
• Automatic feeding
• LOW COST fasteners

Gripco Miniature Pilot Weld and Clinch Nuts, with or without the famous Gripco locking feature, provide low cost fastenings in blind assemblies or as extra threading depth for thin metals. Miniature size ideal where space is limited. Sizes #4 through ¼" in Miniature Series, fine and coarse threads. Sizes ¼" through ⅝" are available in standard dimensions.

Large inventories carried for immediate shipment. Brass and Aluminum made to special order.

Write for samples and full details.

GRIP NUT COMPANY
106 Maple Avenue
South Whitley, Indiana

120

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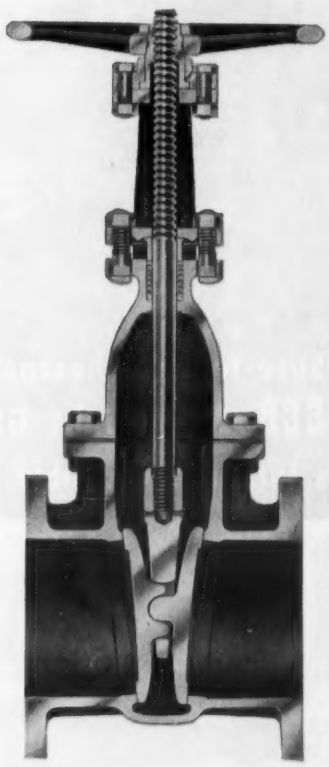
Split Wedge Gate shows why it pays to Specify JENKINS for STAINLESS STEEL Valves, too



Compare the design and construction of a Jenkins Fig. 1327 Split Wedge Stainless Steel Gate Valve with any valve you know. You'll see why it's hard to beat Jenkins at making valves, no matter what the material.

No picture can show the quality of the castings . . . the precision machining . . . the rigid inspection and testing that have gone into this Jenkins Valve. Yet these are as important as design and metal alloys in assuring long, dependable, economical valve service.

SEND FOR NEW CATALOG of Jenkins Stainless Steel Valves. It gives full details about Jenkins patterns, in a choice of alloys that satisfy the requirements of practically all corrosive services. Jenkins Bros., 100 Park Avenue, New York 17.

JENKINS VALVES
Sold Through Leading Distributors Everywhere

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The OVER-RUNNING CLUTCH With GREATEST TORQUE
Per Inch—Per Ounce

On over-running, indexing and backstopping applications, modern Formsprag clutches give you greater torque capacity for size and weight. These precision sprag-type clutches are easy to install, require minimum maintenance and have no measurable backlash. They are available in bores up to 12 inches and capacities to 136,000 ft. lbs. Formsprag also manufactures clutch-couplings. Ask your Formsprag distributor for new catalog, or write direct for your free copy. FORMSPRAG COMPANY, 23595 Hoover Road, Dept. 100, Warren (Detroit), Michigan.

FORMSPRAG CLUTCHES
World's Largest Exclusive Manufacturer of Over-running Clutches

HERE'S HOW IT WORKS

Formsprag clutches have a full complement of sprags between concentric inner and outer races. Rotation of one race in "driving" direction causes the sprags to wedge, transmitting full torque from one race to the other.

An energizing spring keeps the sprags in light contact with both races . . . there is thus no lost motion. When force is applied to the driving member, the driving torque is instantaneously transmitted between races, slippage or backlash is eliminated.

The sprag is, in effect, a "roller" of larger diameter having greater contact surface, and more sprags can be inserted within a given diameter for greater torque capacity. Also, sprags engage at constantly changing contact points to prolong clutch life.

THE CLUTCH WITH THREE FULL LIVES

The design of Formsprag clutches permits two economical "rebuilds" after their initial longer life. When clutches are rebuilt at Formsprag factory, they carry the same performance warranty as new clutches . . . you get a clutch with "three-longer-lives" at a fraction of normal cost. Write for new bulletin "Don't Just Replace—Modernize!"

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INSTANTLY
chips off rust, paint and other hard deposits

Easy-to-use TENNANT Hand Revo-tool is 9" wide. Pneum. or elec.

This compact, powerful tool removes hard deposits like magic! Alloy steel cutters, powered by 12,000 rpm ¾ hp motor, chip off rust, scale, paint, carbon, glue, etc.

Works fast, often 12 to 20 times faster than by hand. Pneumatic or electric. Write to **G. H. TENNANT CO.,** 715B N. Lilac Drive, Minneapolis 22, Minn.

TENNANT **HAND REVO-TOOL**

SPECIALIZED MAINTENANCE EQUIPMENT

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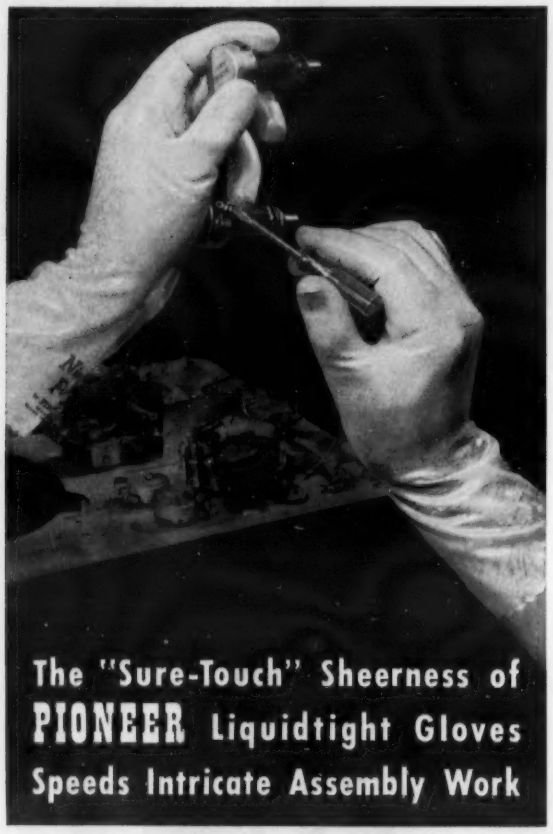

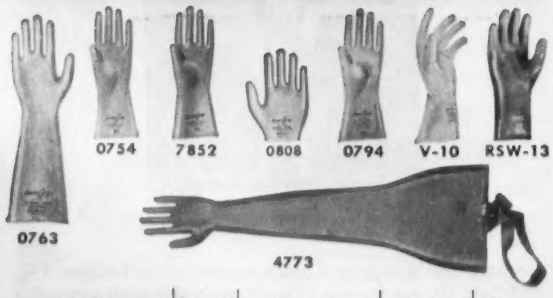

Style	Length	Material	Weight	Grip
Nimble Fingers V-10	10½"	Pylox Vinyl	Sheer	Non-Slip
Stanzoil RSW-13	10½"	Milled Neoprene	.018 (dbl)	Non-Slip
Sheergrip 0754	10½"	Natural Latex	.020 (dbl)	Smooth
Sheergrip 0794	10½"	Natural Latex	.025 (dbl)	Non-Slip
Sheergrip 0763	18"	Natural Latex	.023 (dbl)	Smooth
Sheergrip 4773	34"	Natural Latex	.035 (dbl)	Smooth
Sheergrip 7852	10½"	Neoprene Latex	.019 (dbl)	Smooth
Sheergrip 0808	7½"	Natural Latex	.020 (dbl)	Smooth

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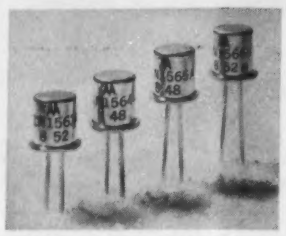
The PIONEER Rubber Co.
234 Tiffin Road . . . Willard, Ohio Sheer

Please send me:
- ☐ 1958-59 Pioneer Industrial Glove Catalog
- ☐ 17" x 22" Full Line Glove Wall Chart
- ☐ Job Description Form For Free Hand Protection Analysis

Firm.....
Address.....
City.....Zone.....State.....
Requested by.....

▲ For more details circle **NED-642 B9** on enclosed inquiry slip ▲

SILICON RECTIFIERS
have 100-400 peak inverse voltages

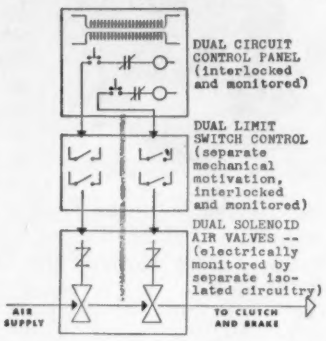


Forward rectified currents of this series of silicon rectifiers are 1.5 amp and 250 ma at 25 and 150° C ambient temperatures. Types 1N1563A through 1N1566A offer peak inverse voltages of 100 through 400. One-cycle average reverse current is limited to 150 mu amp maximum when rectifier output is 250 ma and ambient temperature is 150° C. The diffused junction units are suited for applications where high efficiency is required. Single-end units are welded, hermetically sealed, and designed for printed circuit and chassis uses. Made by **Motorola, Inc.**, Semiconductor Products Div., 5005 E. McDowell Rd., Phoenix, Ariz.

▲ For more details circle **NED-643 B9** on enclosed inquiry slip ▲

FAIL-SAFE PRESS CONTROL
affords antirepeat protection

Suited for new equipment or modernization applications on single-stroke cyclic machinery, Andrus-Coon press system reduces double-tripping to less than a one in a billion chance. It assures operator safety and protects machines, tooling, dies, and fixtures. Two separate control circuits monitor one another for failures. If one system fails, the other takes over and stops the machine at the end of the stroke. Further operation is prevented until the trouble is repaired. Housed in standard or JIC enclosures, control components are standard. An optional trouble-scanning circuit locates a component or circuit failure instantly. Systems are applicable to presses, shears, materials handling devices, automation equipment, and other machinery. Developed jointly with Textrol, Inc., system is distributed by **Fawick Corp.**, Fawick Airflex Div., 9919 Clinton Rd., Cleveland 11, Ohio.



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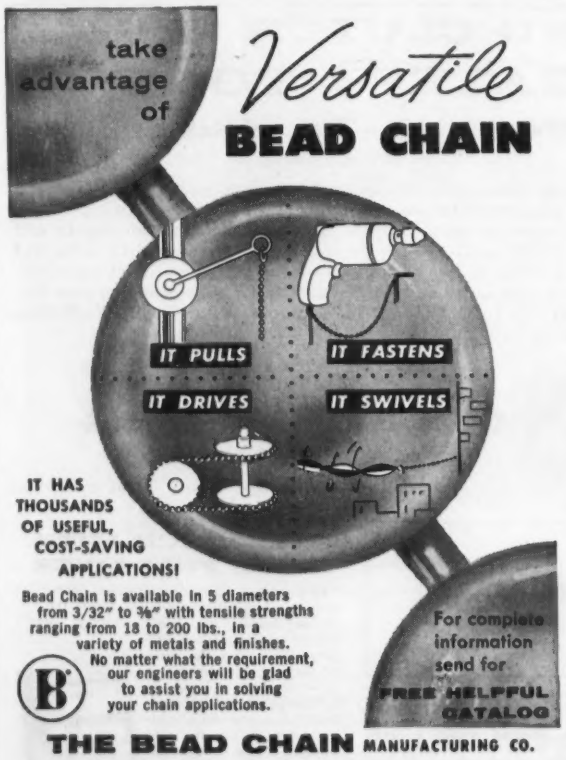
Retaining Rings

Waldes Kohinoor, Inc.—Guide to the selection of 20 standard retaining ring series and 30 representative special rings designed to specification is found in 24-page illustrated Catalog RR 10-58. Function and purpose of each type is given and, for the standard types, the size ranges. Over 75 customer applications illustrate applications. Truarc assembly tools are also covered.

▲ For more details circle **NED-645 B9** on enclosed inquiry slip ▲



THE BEAD CHAIN MANUFACTURING CO.
16 Mountain Grove St., Bridgeport, Conn.

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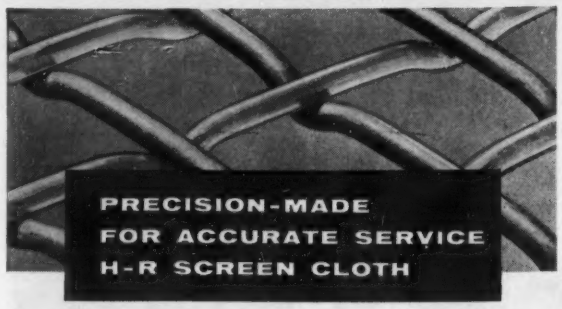
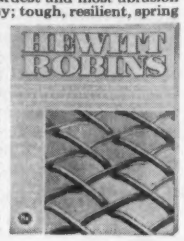


Problem: Inaccurate sizing, blinding, poor output, frequent replacement. Solution: Hewitt-Robins screen cloth made in all popular weaves specifically designed to meet problems on any make of vibrating machinery, of accurate sizing, scalping, flow resistance, tonnage capacity, heavy materials sizing, moisture conditions, plugging or blinding, and others.

Oil tempered Super-Gyraloy, by far the hardest and most abrasion resistant screen cloth wire your money can buy; tough, resilient, spring steel Gyraloy for less excessive abrasion resistance; Super-Gyraloy enamel coated screen cloth for conditions where moisture is a problem; or screen cloths for extraordinary conditions made of steel, brass, stainless steel, phosphor-bronze, monel metal, and other ductile metals, are all available. A wide range of wire and opening sizes permits choice of a screen cloth precision made for your application. To find out how H-R products and services can help you, consult your classified telephone directory for the nearest H-R representative, or contact Hewitt-Robins, Stamford, Connecticut. To obtain your copy of screen cloth bulletin No. 113-A1, write to Hewitt-Robins, Stamford, Connecticut.



HEWITT-ROBINS

CONVEYOR BELTING AND IDLERS . . . POWER TRANSMISSION DRIVES
INDUSTRIAL HOSE . . . VIBRATING CONVEYORS, SCREENS & SHAKEOUTS

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REVCO Sub-Zero Chests

- for shrink fits
- for seasoning gauges and tools
- for testing • for research
- for processing to −140°

Model RSZ503 Rivet Cooler (shown) equipped with 90 rivet canisters, temperatures to −30° F. 110V, 60 cycle, single phase.

Model SZH153 with temperatures to −95° F. 110V; 60 cycle, single phase.

Model SZH653, larger capacity, temperatures to −85° F. 110V, 60 cycle, single phase.

Model SZHC657. Same capacity as SZH653 but attains temperature as low as −140° F. 220V, 60 cycle, single phase.

Refrigeration: Model SZHC657 operates with 3 Tecumseh hermetic compressors in a two system cascade. Other Sub-Zeros use 2 hermetics in a two stage system. Rivet Cooler operates with single hermetic unit. All models equipped with efficient fan-cooled condensers—no liquid coolant required. *Write Today for Full Specifications and Prices.*

Description	Model	Cu.Ft.	Temp. Range Rm. 70°	Temp. Range Rm. 110°	Outside Dim. L	Outside Dim. W	Outside Dim. H	Inside Dim. L	Inside Dim. W	Inside Dim. H
Sub-Zero	SZH153	1.5	−95° F.	−85° F.	42"	28"	42¾"	23"	9"	12½"
Sub-Zero	SZH653	6.5	−85° F.	−75° F.	60"	28"	42¾"	47"	15"	16"
Sub-Zero	SZHC657	6.5	−140° F.	−125° F.	60"	28"	42¾"	47"	15"	16"
Rivet Cooler	RSZ503	5.0	−30° F.	−20° F.	42"	28"	41"	30"	16"	18"

REVCO, Inc.
Setting Trends in Refrigeration since 1938 Deerfield, Michigan

▲ For more details circle **NED-648 B9** on enclosed inquiry slip ▲

ARCWELD MODELS CE, JE
Two Musts For Accurate
Creep Rupture Testing

Performance-proved Model CE offers two capacity choices: 12,000 or 20,000 pounds. Occupies only 817 square inches of floor space. Operated by push button electric weight elevator or automatic inch-down. Elevator maintained fraction of inch below weight pan. Prevents shock when specimen breaks. Other features: adjustable counterbalanced lever arm • precision knife edges • substantiated axial alignment • self-aligning, heat-resisting grips • keyed lower extension grip • optical creep measuring equipment.

Compact, economical Model JE was developed for plants with limited floor space. Available in 12,000, or 20,000-pound capacity. All control instruments mounted on single-hinged panel. Automatic creep recording equipment. Precision guided-way drawhead offers ultimate in operating possibilities when specimen must be tested without shock, bending, torsional or cyclic effects, varying load or axiality. Drawhead travel for more than 5 inches also available.

Above machines available with vernier adjustment on lever for ratio calibration. Dual ratio lever system also available at slight additional cost. Write today for more information.

Arcweld Model CE Creep Tester

ARCWELD MANUFACTURING COMPANY
P. O. Box 311, Grove City, Pa.

▲ For more details circle **NED-649 B9** on enclosed inquiry slip ▲

HOBBS Introduces NEW JACO Tube Cutter

Cuts any resilient tubing without "witness" marks

With this new cutter — only one of its kind — you cut any rubber or synthetic tubing up to ½" O.D. without leaving witness mark or ridge on the tube end. Eliminate marks that cannot be eliminated by any other power cutter.

Only the new Jaco Cutter supports the outside diameter of the tube while the cut is made. In regular production, you can accurately measure tube lengths up to 80,000" long and cut off two lengths per stroke at rates up to 240 pieces per minute.

Send for details now — revolutionize your tube cutting.

HOBBS Manufacturing Company
EST. 1882
41B Salisbury St., Worcester 5, Mass.
Offices and Representatives in Irvington, N. J.; Chicago, Ill.; Cleveland, Ohio; Greenville, S. C.; Louisville, Ky.; Toronto, Ont. and other major cities.
585-8

WINDERS & STANDS • POWER & HAND SHEARS • SLITTERS • DIE PRESSES

▲ For more details circle NED-650 B9 on enclosed inquiry slip ▲

Commander SELECT-A-SPINDLE

DUAL SPEED DRILL PRESS TURRET

DRILLS, REAMS, TAPS ON 1 DRILL PRESS SPINDLE!

- **Fits Any Drill Press**
- **Increases Production**
- **Reduces machine, fixture costs**

Commander Select-A-Spindle permits you to do 3 operations on a single drill press spindle . . . save time . . . eliminate multiple handling of piece parts, speed production and reduce overall costs. Dual Speed Select-A-Spindle permits selection of proper speed for each operation. Quick, positive hand indexing positions each tool accurately for sequence operations. Select-A-Spindle is built to tap with any 1, 2 or all 3 spindles to the full capacity of the unit. Adjustable torque control spindles for protection of taps to ¼" available.

Write for illustrated circular on Select-A-Spindle, other Commander Production Tools and name of your nearby Commander Distributor

Commander MFG. CO.
4220 W. KINZIE STREET, CHICAGO
PRODUCT OF COMMANDER . . . BUILDER OF PRODUCTION TOOLS

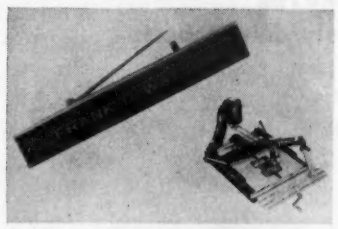
▲ For more details circle NED-651 B9 on enclosed inquiry slip ▲

CATHODE RAY TUBE ultra-short rectangular type

Type 3YP Rayonic rectangular cathode ray tube can be operated at anode potentials as low as 500 v with vertical and horizontal sensitivities of 26 and 40 v dc per inch, respectively. The ultra-short unit measures 7 x 1½ x 3 in., has high brightness, and can operate with anode potentials as high as 2750 v. Tube is electrostatically focused and deflected, and is available with P1, P2, P7, and P11 phosphors. Made by **Waterman Products Co.**, 2445 Emerald St., Philadelphia 25, Pa.

▲ For more details circle NED-653 B9 on enclosed inquiry slip ▲

PLASTIC LAPEL NAMEPLATES have special safety locks



Plastic lapel nameplates which can be easily engraved on the New Hermes engraving machine by unskilled workers are made of rigid laminated phenolic or flexible Gravoflex. Engraving through the top layer exposes the lower layer, producing a colored letter on a contrasting background. Used for personnel identification, nameplates have a safety lock. They are scratch and stain resistant and are available in a variety of colors. Made by **Hermes Plastics, Inc.**, 13-19 University Place, New York 3, N. Y.

▲ For more details circle NED-654 B9 on enclosed inquiry slip ▲

INSULATED FILE CABINET protects contents up to 1700° F

Contents of this UL-approved insulated filing cabinet are protected against destruction from a 1700° F fire for 1 hr. Styled to integrate with modern office decor, it is available in gray, green, and tan. It has an interchangeable lock for key or combination. Each drawer in the two, three, and four-door models can be individually locked. File opens into a visual "V" for easy refiling and finding of filed material. Made by **Mosler Safe Co.**, 320 Fifth Ave., New York 1, N. Y.

▲ For more details circle NED-655 B9 on enclosed inquiry slip ▲

put Vibration to useful work

JEFFREY Electric Vibrating Feeders solve many problems of conveying solid materials—fine powders or huge stone blocks, a few ounces to two thousand tons per hour, dripping wet or bone dry, at temperatures ranging from 30° below zero to 2,000° above.

Balanced vibration in a Jeffrey electric or mechanical vibration system makes it economical to operate, easy on maintenance. Catalog 870 describes the complete line of Jeffrey Vibrating Equipment.

JEFFREY

THE JEFFREY MANUFACTURING COMPANY, COLUMBUS 16, OHIO

▲ For more details circle NED-656 B9 on enclosed inquiry slip ▲

DAY DUST CONTROL NEWS

Free! 9 informative dust control equipment bulletins

BULLETIN G-579 — Describes the DAY Type "RJ" filter. An all purpose, versatile unit. Bulletin gives operating features, dimensions and specifications.

BULLETIN 573 — Dual-Clone dust separators — noted for their low resistance and high cleaning efficiency. Easy to install, no maintenance, no moving parts.

BULLETIN 576 — "HV" heavy duty dust separator. Rugged construction and lower initial cost than many light gauge galvanized type cyclones.

BULLETIN F-75 — Reverse Jet Dust Filter Facts. Complete with specifications, typical equipment layouts, capacity and performance tables for DAY type "AC" filter.

BULLETIN N-578 — Gives complete information about Style "A" rotary valves. Construction features, specifications, dimensions and applications.

"SCHLITZ DEFEATS DUST" — FOOD ENGINEERING magazine reprint describes all out dust control for 3½ million bushel Schlitz grain elevator. Request Bulletin "Schlitz Defeats Dust."

"EFFICIENT DUST SNATCHERS" — Bulletin describes DAY's part in providing maximum safety and good housekeeping for starch packing building of large food processor.

BULLETIN 510 — DAY Unit Dust Collectors. Complete, low cost unit designed for plants or applications where central dust control systems are not practical.

BULLETIN I-585 — Industrial Fans. Complete with helpful selection charts, capacity tables, dimensions and specifications. Information on special types and arrangements included.

The DAY Company

Sold in UNITED STATES by
The DAY SALES Company
866 Third Avenue N.E., Minneapolis 13, Minn.
Representatives in Principal Cities

You can save time when planning and save money when buying if you'll send for these DAY dust control bulletins. Each contains valuable information about dust control equipment and systems. Here's general information plus useful technical data and specifications. Ask for any bulletin which interests you or write for them all — they're free. Use this magazine's reader service card or write direct toDAY.

EQUIPMENT ONLY OR A COMPLETE SYSTEM

▲ For more details circle NED-652 B9 on enclosed inquiry slip ▲

Duro-Test Flumeric® Lamps give you MORE light at LESS wattage than comparable incandescent lamps

- ★ FIT STANDARD SOCKETS AND FIXTURES. REQUIRE NO BALLAST
- ★ RATED AT 6,000-12,000 HOURS FOR LOW, LOW MAINTENANCE
- ★ 450 W. IN BT-37 ULTRA-DUREX BULB 750 W. IN R-57 ULTRA-DUREX BULB
- ★ PRODUCE BRILLIANT WHITE LIGHT WITH NATURAL COLOR RENDITION
- ★ IDEAL FOR ALL GENERAL LIGHTING — HIGH BAY OR POLE — IN OR OUTDOORS

For information, write to

DURO-TEST CORPORATION
NORTH BERGEN NEW JERSEY

DURO-TEST ELECTRIC, LTD.
MONTREAL • TORONTO • VANCOUVER

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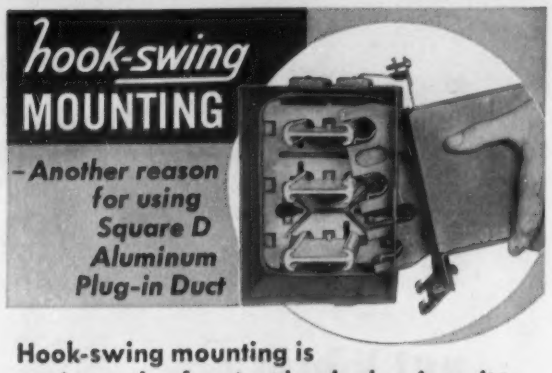

Hook-swing mounting is easier and safer. Just hook plug-in unit to top of duct, then swing down into position

Hanger mounts in any position for easier installation.

I-beam construction of bus bars is four times stronger than other types.

Full-width bus support gives extra strength, and less vibration.

Totally enclosed construction prevents accidental shorts.

Insulator on plug-in jaws guides units into position, protects jaws from damage.

Steel pins in each bus bar prevent shifting, provide vertical support.

Write for Bulletin SD-110 • Square D Company, 6060 Rivard Street, Detroit 11, Michigan

NOW...EC&M PRODUCTS ARE A PART OF THE SQUARE D LINE

SQUARE D COMPANY

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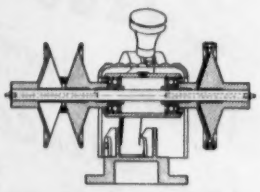
Regardless of Cost...You Can't Get A Better Variable Speed Transmission

Lovejoy

SELECT-O-SPEED

Fractional to 5 hp. at 1750 rpm. Ratios to 10 to 1. Lever (shown) or handwheel control.



- Inexpensive compared to other infinitely variable speed transmissions.
- As easy to install as an ordinary V-Belt drive.
- Uses standard V-Belts.
- Infinitely variable over wide speed ratio up to 10:1.
- Changes speed quickly while machine is running.
- Compact—all metal—balanced sheaves—large ball bearings.
- Minimum wearing parts—no expensive replacements.
- Lubrication needed at only three points.

Get the facts about the Select-O-Speed. Tell us about your application. We'll give you our recommendations. Request Bulletin 118.

LOVEJOY FLEXIBLE COUPLING CO.
4803 West Lake Street, Chicago 44, Illinois

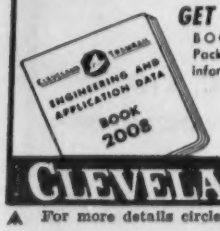
▲ For more details circle NED-659 B9 on enclosed inquiry slip ▲

5 TONS SHEET STEEL PER LOAD

- SPEEDS HANDLING
- LOWERS COSTS
- SAVES SPACE
- AIDS SAFETY

One man picks up, delivers directly where needed and unloads, easier, faster, safer, with a Cleveland Tramrail overhead system and sheet grab. Hand or electrically operated equipment.

GET THIS BOOK! BOOK No. 2008 Packed with valuable information. . . .



CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6627 East 285th St., Wickliffe, Ohio

CLEVELAND TRAMRAIL

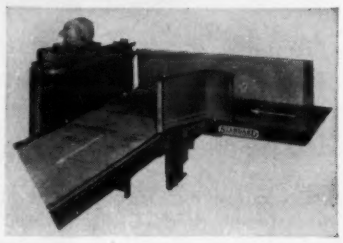
▲ For more details circle NED-660 B9 on enclosed inquiry slip ▲

ADJUSTABLE RAIL FITTINGS speed erection of pipe structures

An adjustable cross, adjustable stair landing tee or cross, side outlet adjustable ell or tee, and double adjustable side outlet ell or tee have been added to the Speed-Rail line of adjustable fittings. These slip on fittings plus the non-adjustable units cut down construction time for railings, safety enclosures, and other pipe structures. Pipe bending is eliminated and part stock can be kept to a minimum because fittings can be used as either right or left hand type. Adjustable sockets swivel 120 degrees. A pipe cutter and a hex wrench are all the assembly tools needed. Made by **Hollaender Mfg. Co.**, 3841 Spring Grove Ave., Cincinnati 23, Ohio.

▲ For more details circle NED-661 B9 on enclosed inquiry slip ▲

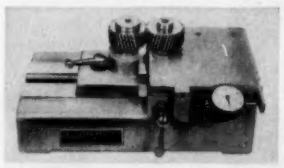
CONVEYOR DIVERTER has separately driven belts



Various sizes and types of commodities, cartons or baggage are diverted 90 degrees by this compact right angle transfer unit. It consists of horizontal feed and takeaway belts set at right angles to each other, plus a short vertical belt, mounted at right angle to feed belt, which assists in turning the conveyed item. Each of these belts is separately driven to eliminate complicated drive arrangements. Made by **Standard Conveyor Co.**, 315 N. W. Second St., North St. Paul 9, Minn.

▲ For more details circle NED-662 B9 on enclosed inquiry slip ▲

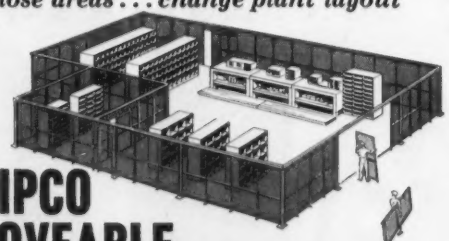
GEAR ROLLING FIXTURE checks external spur, helical gears



Size, eccentricity, and meshing smoothness of external spur and helical gears up to 10-in. diameter are checked by the Model 607 bench type gear rolling fixture. Checking is done by manually rotating (or rolling) the gear to be checked against a master gear. All deflections are shown on a dial indicator in increments of 0.0005 in. Center distance of the low cost unit is adjustable from 1¾ to 6 in. Master gear arbor diameter is 1 in., but other sizes can be furnished. Gear arbor diameter is furnished to suit the application. Fixture can be used with the Model MTR automatic recorder to keep a permanent chart record of the inspection. Made by **Michigan Tool Co.**, 7171 E. McNichols Rd., Detroit 12, Mich.

▲ For more details circle NED-663 B9 on enclosed inquiry slip ▲

New low-cost way to set up a department, enclose areas . . . change plant layout



WIPCO MOVEABLE WIRE PARTITIONS

NO SPECIAL TOOLS . . . NO SPECIAL CREWS NEEDED—*your own men* set them up, relocate them . . . *at less than the cost of wood framing and wire netting!* Everything you need—Standard panels plus all accessories (doors, windows, top panels, bars, braces, etc.)—available immediately from factory stock. Made of tough, machine woven steel wire, Wipco Partitions protect areas against theft and loss, permit ventilation and visibility . . . economical to maintain. *For firm price, send free hand sketch of areas to be enclosed.*

Write Today for Bulletin P-55

Wire and Iron Products, Inc.,
1727 Sixteenth St., Detroit 16, Mich.

WIPCO

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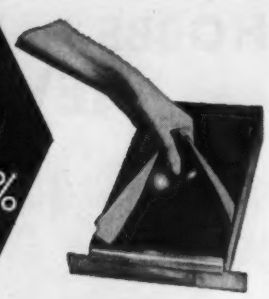
REDUCE CLEAN-UP TIME 50%



a thin film of

RELEASE-COTE

on any surface sheds residue glues, adhesives, plastic coatings, inks, paints . . . like magic!

- Machines last longer because RELEASE-COTE repels coating materials, eliminating build-ups that tax motors and moving parts.
- Operators love RELEASE-COTE's gentleness to their hands. A little rubbed on the hands prevents coating material from sticking to the skin and nails.

Available in qt., gal., 5 gal. and tube.

Write for literature.

ESTABLISHED IN 1893 POTDEVIN

Distributed by
POTDEVIN MACHINE CO.
273 North Street, Teterboro, N. J.
Designers and manufacturers of equipment for gluing and labeling, coating, laminating, bag making and printing.

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Try this PORTABLE

METAL-CUTTING BAND SAW!

It's a wow on both ferrous and non-ferrous metals—even tough stainless steels, tool steel, nickel-based alloy and other problem materials. And **fast!** Handles 3¼" x 4¼" rectangular stock, ¾"-diameter round stock. Well balanced and easy to handle, even inexperienced operators can use it. Equipped with ball and needle bearings and 6.5 amp Universal motor. Blade moves at 240 SFPM. The ideal timesaver in any shop where metal-cutting is necessary. Ask your Porter-Cable dealer or write for a demonstration.

Porter-Cable *Quality Power Tools*

PORTER-CABLE MACHINE COMPANY
9122 Marcellus Street
Syracuse 4, N. Y.

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NEW *Comfort Seal on*

STRAIGHTAWAY SOUND PROTECTORS!

No costly replacements due to puncture or cracking of liquid seals when you muffle plant noise with the AO 372-8A! New extended extremely soft vinyl ear seal maintains same attenuation as previous 372 Series, conforms to temples of glasses and is very comfortable — even in cold temperatures. Cold will not crack muff. Overall rugged construction prevents vibration of protector while in use. Results in superior performance. These are the reasons why many aircraft manufacturers use the AO Straightaway — why this muff is the most widely accepted. Write for literature containing attenuation charts or call your nearest American Optical Safety Products Representative.

Always insist on Trademarked Safety Products

American Optical COMPANY
SAFETY PRODUCTS DIVISION

SOUTHBRIDGE, MASSACHUSETTS
Safety Service Centers in Principal Cities

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NEW FILTER DISC

screen disc cartridge for service as breather or flame arrester

• A new filter disc incorporating wire cloth screen as filter media is available for application to many types of products. Completely self-contained, for simple adaptation to any product design, the filter disc serves as a breather or can be used as a tank vent flame arrester. Filter media is multiple layers of fine mesh steel or bronze wire screen. Available in 1", 1⅜", 1⅝", 3½" diameters. Write for complete information. **AIR-MAZE CORPORATION**, Cleveland 28, Ohio.

▲ For more details circle **NED-668 B9** on enclosed inquiry slip ▲

For extra protection, extra wear...

protection NORTH AT ALL POINTS

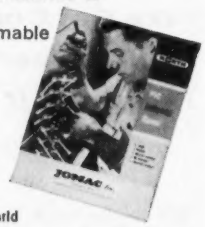
PVC GLOVES

Good reasons!

- **Outwear** other types two to five times
- **Have** excellent pliability, afford extra comfort and dexterity
- **Chemical-resistant** PVC compound withstands almost all acids, alkalis and solvents
- **Nonaging**, nonoxidizing and nonflammable

FREE Glove Booklet!

Write for your copy today



JOMAC *Inc.*

Dept. G, Philadelphia 38, Pa.

Associated Dealers and Distributors Throughout the World

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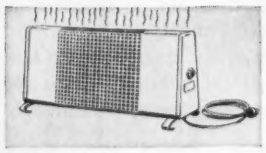
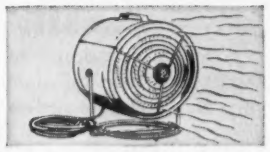
For portable use or for permanent installation . . .

Get quick comfort for hard-to-heat areas: G-E space heaters can be delivered today





General Electric space heaters of both natural convection and forced convection types are now available for quick delivery from your nearby G-E distributor. General Electric space heaters are:

EASY TO INSTALL: Just mount them on the floor, wall or ceiling and plug them in. You have immediate heat for drafty areas and buildings not serviced by your heating plant. No plumbing is required.

CLEAN: General Electric heaters give off no odors, dirt, soot, or obnoxious gases. Quick, clean heat is available at the turn of a switch.

READILY PORTABLE: Sturdily constructed but light in weight, General Electric space heaters can be moved easily from one place to another.

FREE BULLETINS

For more information, write Section 723-33, General Electric Company, Schenectady 5, N. Y., and ask for GEA-6361, HANDY SELECTOR GUIDE FOR HEATING ROOMS OR BUILDINGS, and GEC-1005 CATALOG OF GENERAL ELECTRIC HEATERS AND DEVICES.

GENERAL ELECTRIC

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DUST-TIGHT VALVE

controls flow of dry powders

Flow of dry powders and granular materials in blending, milling, and conveying operations can be controlled by the dust-tight Solids Flow valve. Body of valve is covered with a removable neoprene liner. The vane and O-ring sealed shafts are 18-8 stainless steel, and all parts can be replaced in the field. Discharge handle locks the valve in any position. Adjustments can be made for precise positioning, or to compensate for wear. To assure tightness, valve has been tested with a 20-in. head of water. Available 8, 10, and 12-in. sizes have 8¼, 10¼, and 12¼-in. openings and 10½, 12½, and 14¾-in. OD, respectively. All valves are 1½ in. thick. Made by **Patterson-Kelley Co.**, 392 Warren St., East Stroudsburg, Pa.

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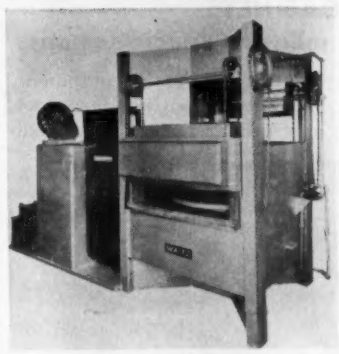
HEAT TREATING FURNACE

for large, thin, circular pieces



Large, thin, circular pieces such as circular saws are heat treated in this Waltz flattening and tempering furnace. Work is placed in the chamber between two 42-in. circular cast iron dies. Top die is fastened to bottom end of a cylinder with ball and socket joint. Burner fires into a combustion chamber on the inlet side of the recirculating fan. Combustion blower is mounted on top of the air duct, to the left of the control panel. Doors on either side of chamber provide easy access to work. The gas-fired, recirculating type furnace has a 350 to 1000° F temperature range. Made by **Waltz Furnace Co.**, Dept. 13, 1901 Symmes St., Cincinnati 6, Ohio.

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Remote Handling Devices

General Mills, Inc., Mechanical Div.—Line of remotely controlled handling devices, including several models of the basic Mechanical Arm, adaptions for post or wall mounting and for underwater operation, mobile handlers, fuel handling systems, and remote cutting equipment is detailed in illustrated 20-page booklet. They are developed for remotely handling radioactive, toxic, or highly flammable materials.

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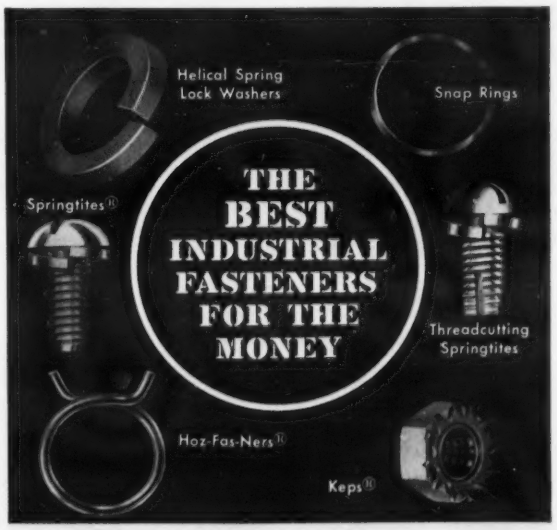

EATON-RELIANCE cost-reducing fasteners do the job easier, faster, surer!

Send for free, 28-page Engineering Bulletin 4K/3 for fresh ideas on cutting fastener costs.

EATON RELIANCE DIVISION MANUFACTURING COMPANY 509 Charles Avenue • Massillon, Ohio

SALES OFFICES: NEW YORK • CLEVELAND • DETROIT CHICAGO • ST. LOUIS • SAN FRANCISCO • LOS ANGELES

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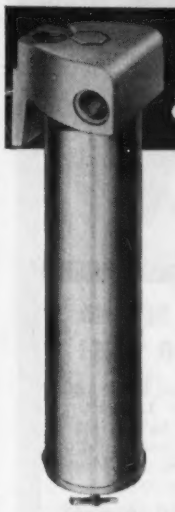
Protect air-operated equipment with the low-cost DeVilbiss



Dirt, Moisture, & Oil Separator

Delivers up to 50 cfm of air for pneumatic tools, blow guns, air-operated controls, clutches and cylinders.

Permanent-type air cleaner and dirt filter is used. All-metal centrifugal water and oil eliminator requires no attention. Convenient bottom valve for draining off sediment and liquids.

Corrosion resistant—built to operate with up to 250 psi air. Has built-in mounting bracket. Write today for spec sheet.

Model HRE-501

DEVILBISS THE DEVILBISS COMPANY Toledo 1, Ohio

BRANCH OFFICES IN PRINCIPAL CITIES

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HANDY TO USE... IDEAL FOR SERVICE KITS

INDUSTRY'S LEADING PIPE THREAD COMPOUND

Get *Plastic Lead Seal in the handy-to-use 4-oz. plastic applicator tube. It's an ideal size for tool and service kits. Tube won't damage when dropped or hit by blunt tools...never cracks at seams.

Use PLS for water, steam, gas, chemical, refrigerant or petroleum services ...pressures to 6000 psi., temperatures to 500°F. Seals permanently. Never hardens. Underwriters' approved.

Request Sample Tube. *Better yet, send order for special 12-tube package. Act now.*

John Crane CRANE PACKING COMPANY

6411 OAKTON STREET, MORTON GROVE, ILL. (Chicago Suburb)

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Measure* TENSILE WEIGHT · TORQUE COMPRESSION ... *anywhere!

with a portable

Dillon Dynamometer

- 13 CAPACITIES: 0-500, 0-1000, 0-2500, 0-3500, 0-5000, 0-10M, 0-15M, 0-20M, 0-30M, 0-40M, 0-50M and 0-100M pounds.
- Choice of dial sizes: 5" or 10" diameter.
- Equipped with attachment shackles and pins.
- Dial protected by shatter-proof crystal.
- Will withstand accidental overloads.
- Has max. pointer to register peak loads.
- Extremely compact. Requires little headroom.
- Lightweight yet rugged. Easy to handle.

YOURS FREE!

Profusely illustrated catalog showing applications and prices. Write **today!**

W. C. Dillon & COMPANY, INC.

14578NE Keswick Street Van Nuys 1, California

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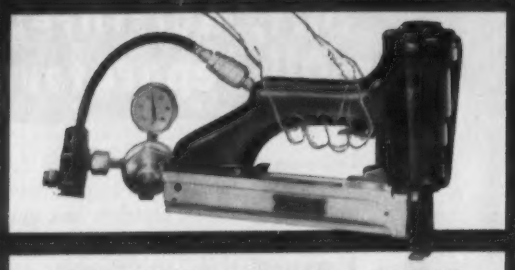
DUO-FAST BRAD GUN



NEW! DRIVES 4 BRADS A SECOND ... at 60 PSI OR LESS!

Here's a fist-full of fastening power that feeds and drives brads *automatically*: the new DUO-FAST Brad Gun! Has the wallop to drive 5/8" to 1¼" brads into the hardest woods (also plastics, light metals, etc.). Yet it uses just 40 to 80 psi! Magnesium light, recoil-free, safe and easy to use.

Investigate how this new DUO-FAST tool can speed and simplify *your* nailing operations. Send today for FREE Bulletin FN-37.

DUO-FAST / FASTENER CORPORATION
3758-60 River Rd., Franklin Park, Ill.

▲ For more details circle NED-678 B9 on enclosed inquiry slip ▲

Now available— SEL-LOK spring pins in beryllium copper

- Superior electrical properties
- Excellent corrosion resistance
- Fast, economical fastening

SEL-LOK spring pins made of beryllium copper give you the speed and economy of self-locking fastening, plus outstanding electrical characteristics. They have high conductivity, are nonsparking and nonmagnetic. In addition, they offer superior corrosion resistance. These properties are combined in a material having 60% the strength of carbon steel, more than ample for most applications. Sold by your authorized SPS distributor in sizes from 1/16 x 3/16 to ¼ x 3½ in. Write for Catalog Sheet 2376. (SEL-LOK spring pins also available in carbon or corrosion-resistant steel, sizes from 1/16 x 3/16 to ½ x 5 in. Request Bulletin 2331.) STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

SPS Jenkintown • Pennsylvania

Standard Pressed Steel Co. • The Cleveland Cap Screw Co. • Columbia Steel Equipment Co. • National Machine Products Co. • Nutt-Shel Co. • SPS Western • Standco Canada Ltd. • Unbrako Socket Screw Co., Ltd.

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Thoroughly Proved...

BY YEARS OF HARD EVERYDAY USE IN THOUSANDS OF PLANTS

HANSEN QUICK-CONNECTIVE PUSH-TITE COUPLING

To connect a Hansen Push-Tite Coupling, you merely push the Plug into the Socket. Flow is instantaneous. To disconnect, push back sleeve on Socket—Coupling disconnects with instant, automatic shut-off of fluid. No tools required. Free-swiveling Plug eliminates any possibility of kinks in hose.

ONE-WAY SHUT-OFF

- Instant automatic flow and shut-off.
- Quick connection and disconnection.
- Leak-proof, minimum wear locking device.
- Integral factory assembled, tamper-proof socket head.

Two-Way Shut-Off and Straight-Through Couplings also available.
WRITE FOR CATALOG
Representatives in Principal Cities

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

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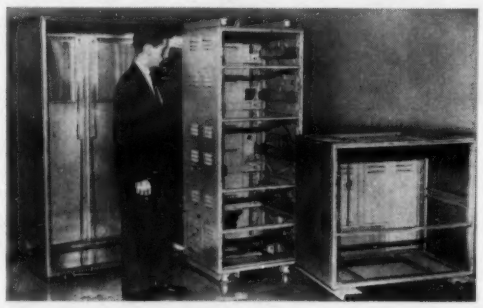
SQUARING SHEAR
maximum width of cut is 52 in.

Plastics, metals, composition sheets, and other materials up to 52 in. wide can be sheared in the Model HS-1052 hydraulically operated squaring shear. It will make 28 to 30 strokes per minute on mild steel at 3/8 in. rake per foot, or 48 to 50 strokes per minute on plastic sheet at 1/8 in. rake per foot. Shear capacity is 10-gage mild steel or 7240 psi. Length of cut is quickly varied by a limit switch which permits notching and fast cutting of short lengths. Hold-down pressure can be varied from 0 to 4 tons. Slope of top blade is variable from 0 to ¾ in. per foot by a pushbutton. The ball bearing back gage has a 24-in. range. Also featured are a control panel with interlocked electrical jog stations, flow control selector, and remote control switch which starts cutting cycle from any position. Made by Wysong & Miles Co., 625 Fulton St., Greensboro, N. C.

▲ For more details circle NED-681 B9 on enclosed inquiry slip ▲

CUSTOM-BUILT CABINETS
comply with military specifications

Particularly suited for housing electronic equipment, Mil-Spec cabinets are custom built from standard stock parts to suit practically any need. They can be made



to comply with MIL-T-17113 or other specifications, and they are adaptable to RETMA and Western Electric panels. Such features as built-in cooling ducts, protected harness ways, shock mounts, and variations in size and load capacity can be provided. Made by **Aircraft Armaments, Inc.**, Cockeysville, Md.

▲ For more details circle NED-682 B9 on enclosed inquiry slip ▲

Hydraulic Tube Fittings

Flodar Corp.—Three sections on self-flaring, No-Flare, and flare-type fittings comprise 28-page catalog. Each section contains data on design and installation, plus dimensional and engineering specifications. Sizes from 1/8 to 2 in. are included. High pressure steel pipe fittings used in hydraulic systems are also covered.

▲ For more details circle NED-683 B9 on enclosed inquiry slip ▲

TOUGHER THAN NAILS!

MILLERS FALLS NEW POWER BITS

These new, heavy duty, power bits slice through ordinary nails ... screws ... obstructions. High speed steel blades. The efficient, economical way to drill large holes up to 1½" diameter! Shanks have 3 flat sides for secure grip in 3/8" or larger chucks. Fit any ¼" electric drill with Millers Falls new Shank Adapter or Quick-Change Chuck. Bits priced from $1.65 to $2.50.

8 SIZES
5/8" UP TO 1½"

MILLERS FALLS TOOLS SINCE 1868

MILLERS FALLS COMPANY
Dept. NED-6
Greenfield, Mass.

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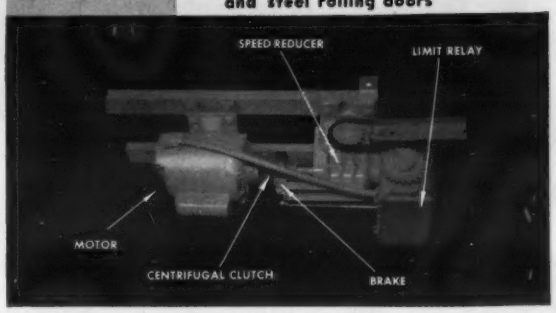
THE MARK OF QUALITY BARBER COLMAN

NEW Model LR DOOR OPERATOR

- 1/3 hp motor . . . for doors 240 sq ft, 19 ft 2 in wide
- Low-voltage control standard
- For overhead, full vertical, sliding, and steel rolling doors



still only $230, f. o. b. Rockford—No change in the fine-quality materials and construction of famous instant-reversing Model L, yet with all the above new features, plus enclosed safety switch with Fusetron overload protection. Radio control available. Also, LC Operator with special Safety Switch. Distributor listed under "Doors" in your phone book.

WRITE for Bulletin F5685.

BARBER-COLMAN COMPANY
Dept. S92, Rockford, Illinois

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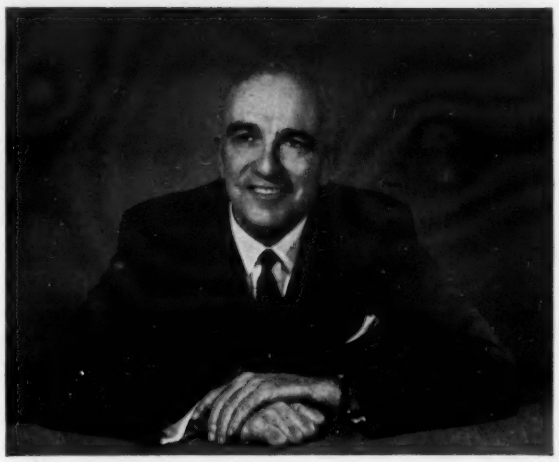
thanks to XEROGRAPHY...



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BRANCH OFFICES IN PRINCIPAL U. S. AND CANADIAN CITIES

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METZGAR CONVEYOR CO.

416 Douglas St., N. W. MFRS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT CONVEYORS • SWITCHES • ACCESSORIES

GRAND RAPIDS 4, MICH.

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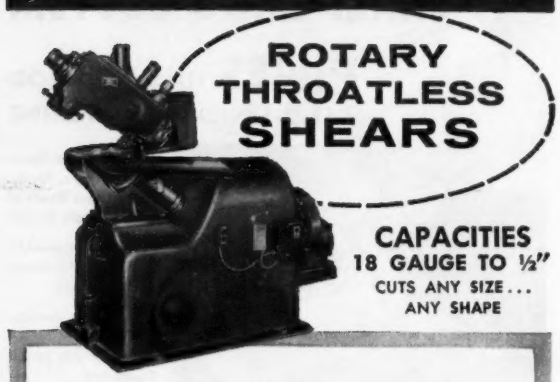
MARSHALLTOWN



America's finest for every cutting job—straight, irregular or circular patterns.

Speedy—up to 6 ft. per minute. Efficient, easy to operate.

Built for extra heavy duty use. High grade tool steel cutters.

Write Today for Details and Prices

MARSHALLTOWN MFG. COMPANY
MARSHALLTOWN 2, IOWA

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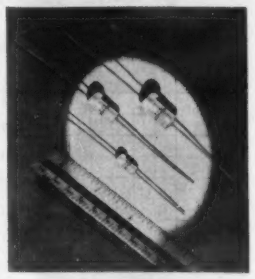
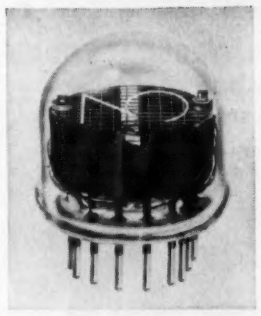
TANTALUM CAPACITOR
now shock and vibration resistant



A special anode base support gives the PP type tantalum capacitor exceptional resistance to shock and vibration. Used in a wide range of electronic equipment, the small size capacitor can now be used in mobile airborne electronic equipment, missile, rocket, and similar applications. It is electrically stable over a −55 to 85° C range and exhibits good frequency stability and negligible electrical leakage. Made by **Fansteel Metallurgical Corp.**, Dept. NDC, 2200 Sheridan Rd., North Chicago, Ill.

▲ For more details circle NED-690 B9 on enclosed inquiry slip ▲

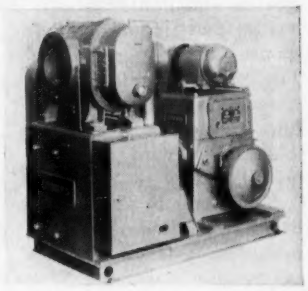
NUMERICAL INDICATOR TUBE
has more than 10,000-hr life



First of a series of numerical indicator tubes available in production quantities is this Nixie Type B-5031 with a life of more than 10,000 hr. The all-electronic indicator presents numerals 0 through 9 in a common in-line viewing area. Typical features are wide angle readability, low power, a bright presentation under ambient light conditions, and simple circuit. Made by **Burroughs Corp.**, Electronic Tube Div., Box 1226, Plainfield, N. J.

▲ For more details circle NED-691 B9 on enclosed inquiry slip ▲

BOOSTER VACUUM PUMP
ultimate vacuum is below ½ micron



Maximum pumping speed of the Model 1710 mechanical booster vacuum pump is 1050 cfm. Capable of an ultimate vacuum below ½ micron, it is a compact, integrated, two - stage pumping system on a common base plate. First stage is a Roots type dry blower that acts as a supercharger for the second stage, a standard gas-ballasted Microvac rotary vacuum pump. During initial rough pumping, this pump operates by itself. Unit is included in a line with maximum pumping speeds of 1250, 2900, and 5100 cfm and a pressure range from 10 microns to 1 mm. Made by **F. J. Stokes Corp.**, 5500 Tabor Rd., Philadelphia 20, Pa.

▲ For more details circle NED-692 B9 on enclosed inquiry slip ▲

CHERRY-BURRELL THERMUTATOR

Heats to 350°F., Cools to -50°F.

without burn-on or freeze-on

Specially designed for heavy-bodied products. Patented 3-bladed mutator shaft scrapes sides of tubes continuously. Prevents burn-on or freeze-on even at extreme temperatures. Gives you efficient, uniform heating or cooling.

Thermutator Rotary Heat Exchangers available with one, two or three tubes. Tubes equipped with separate piping and controls. You can heat in one tube, cool in another simultaneously. Tubes are 4' long with either 4" or 6" diameter.

Get complete information on Thermutators and what they can do for you from a Cherry-Burrell Sales Engineer. Or write to:

CHERRY-BURRELL CORPORATION
Cedar Rapids, Iowa

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CALCULAGRAPH computes and prints ELAPSED TIME on job cards *Automatically*

Calculagraph will fit into your *present* system. It *computes* and *prints* ELAPSED TIME automatically on your job cards. It eliminates costly clerical time and additional equipment—assures 100% accuracy. Furthermore, the flexibility of Calculagraph makes it adaptable to *any* system.

And remember, too, that CALCULAGRAPH

- *is simple to use*
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- *is a self-contained unit—needs no MASTER CLOCK*
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MANUFACTURERS OF ELAPSED TIME COMPUTERS FOR OVER 65 YEARS

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Top Performance and Durability!

LESTO

GE/UHS - $99.50

The original reciprocating electric handsaw has never been duplicated in performance or durability. The number of blade strokes is scientifically set to obtain maximum efficiency in cutting wood up to 2" thick, metal, formica, fibre-glass and abrasive materials. Use it as a rip, cross-cut, coping, key-hole, band, scroll and jig—you'll be amazed by its smooth, quiet operation! Service and parts available throughout U. S.

Sole U. S. importer of

LESTO "SWISS MADE" SAW BLADES

For further information and literature see your dealer or write:

VICTOR J. KRIEG, INC.
Precision-made power tools of unsurpassed performance
611 BROADWAY, NEW YORK 12, N. Y.

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how to apply low cost VARIABLE SPEED to your product

This 16-page catalog covers a wide range of practical information on how to get the most from your electric motors . . . variable speed, instant control, reversing, increasing torque, clutching, presetting RPM's, remote control, measuring torque . . . and other items. It also illustrates and describes Zero-Max variable speed controls for fractional horsepower motors.

SEND FOR YOUR FREE COPY NOW!

Zero-Max **REVCO Incorporated**
1910 Lyndale Ave. So.
Minneapolis 5, Minn.

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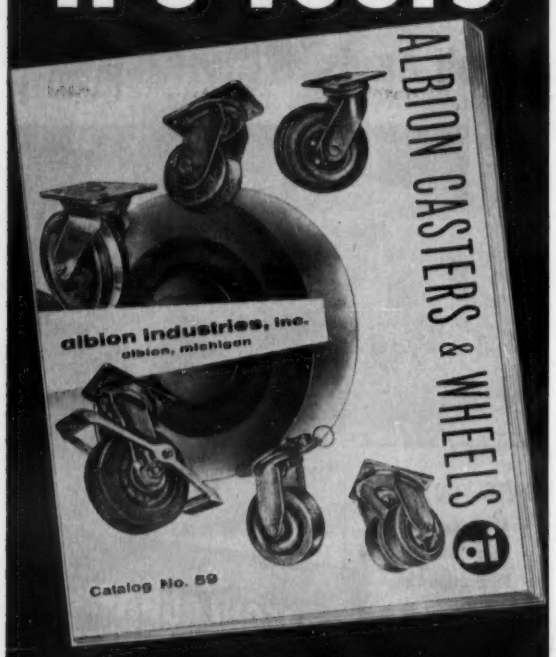
it's Yours



FOR THE ASKING...

● Albion's big new '59 Catalog of Industrial Casters and Wheels. 44 pages of the latest, most modern casters and wheels ever developed for industrial users. Detailed illustrations and complete specifications, plus many helpful cost-cutting suggestions to help you solve your materials handling problems more economically.

Write today...for your own copy of this brand new '59 Albion Catalog. It's yours for the asking!

ai Gentlemen . . . please rush me a copy of your new '59 Catalog.

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FIRM_____
ADDRESS_____
CITY_____ ZONE____ STATE_____

ALBION INDUSTRIES, INC.
Albion, Michigan

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ADHESIVE APPLICATOR
for hot melt type adhesives

Parent machines processing continuous webs of material can employ the Model CN Thermogrip applicator to feed, melt, and apply cord-like adhesives through a nozzle. Mechanical drive for the unit is taken from the base machine in a ratio that maintains adhesive output proportionate to web speed. Adhesives may be applied up or down onto the moving materials, in one or more bands, and with controlled thickness. Adjustable thermostatically operated heating units are located in the melting and applying sections of the device. Made by **United Shoe Machinery Corp.**, 140 Federal St., Boston 7, Mass.

▲ For more details circle NED-697 B9 on enclosed inquiry slip ▲

SOUND LEVEL METER
improved model is smaller, lighter

Noise generated by machines and appliances, environmental noise, and the propagation of noise by materials and structures can be measured by the improved Type 1551-B sound-level meter. With its accessories it is capable of accurate sound-pressure measurements, sound - spectrum analysis, and other acoustic measurements. The smaller and lighter model has a new microphone for improved frequency response, and better performance at high sound levels. The meter circuit closely approximates the rms response. A calibration circuit does not require a power line connection. Batteries are the normal power source, but with a power supply, operation can be on 105-125 v or 210-250 v ac. Price with batteries is $395, case is $20, and power supply is $70. Made by **General Radio Co.**, 275 Massachusetts Ave., Cambridge 39, Mass.

▲ For more details circle NED-698 B9 on enclosed inquiry slip ▲

Work Holders, Fixtures & Vises

Universal Vise & Tool Co.—24-page illustrated Catalog 9158 CJ covers line of machine vises, rotary tables, adjustable angle plates, standard set-up fixtures, and the Clamp-N-Jack set-up system for all types of machine tools. Specifications, prices, and application data are given for all equipment.

▲ For more details circle NED-699 B9 on enclosed inquiry slip ▲

This automated press-conveyor system was developed by Oliver-Farquhar for the U.S. Air Force Heavy Press plant operated by Kaiser Aluminum & Chemical Corporation in Halethorpe, Maryland. O-F live-roller conveyors move the aluminum extrusions into the press. The conveyor moves up or down to position the work in the die. Then the ram of an O-F Horizontal Bulldozer Press moves forward to straighten the extrusion. Finally the conveyor moves the work away and the operating cycle starts over again. This is an example of the type of advanced engineering for automation that is available at Oliver-Farquhar. For complete information and recommendations write: The Oliver Corporation, A. B. Farquhar Division, Dept. F-04, York, Penna.

▲ For more details circle NED-701 B9 on enclosed inquiry slip ▲

CUTS DEBURRING and CHAMFERING COSTS...

PINES TUBE AND ROD END-FINISHING MACHINE

(Above) Model 600 Machine has 8-speed step sheaves (760 to 3920 RPM), pivoting stock stop. Clamps and feeds work to rotating cutters. Capacity up to 2" O.D. Average production: 600-800 tube ends per hour.

● Fast, Easy to Operate—Clamps, Feeds, and Gauges Depth of Cut in Single Stroke.
● Interchangeable Tool Bits, Holders, Chuck Inserts.
● Combines Inside-Outside Deburring and Facing in Single Operation.
● Compact, Portable—Takes up Small Space.
● Other Models Available for Work up to 5" Diameter.
● Automatic Air-Operated Units and Specials to Suit Higher Production Needs.

WRITE FOR COMPLETE DATA—
New Catalog illustrates cost-cutting features, gives production data and complete specifications.

PINES ENGINEERING CO., INC.
Specialists in Tube Fabricating Machinery 641 WALNUT • AURORA, ILLINOIS

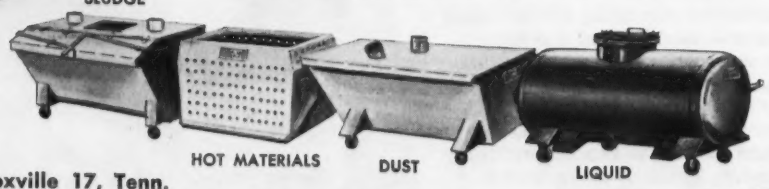
PRODUCTION BENDING • DEBURRING • CHAMFERING MACHINERY

▲ For more details circle NED-702 B9 on enclosed inquiry slip ▲

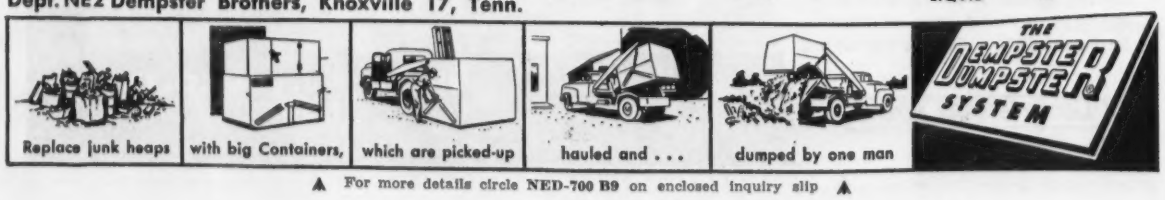
"CONTAINERIZE" waste & rubbish as it accumulates

Eliminate unsightly junk heaps, battered cans or open bins which let trash blow and scatter. Place big, clean Dempster-Dumpster Containers at points of waste accumulation inside and outside your plant. When full, they are picked-up, hauled and dumped by one man and one truck-mounted Dempster-Dumpster. Regardless of the type of waste you generate, there is a container built to provide enclosed, big-volume storage for it. You can own this low-investment System, or a nearby Dempster-Dumpster Contract Hauler will place Containers in your plant and empty them for a nominal fee.

WRITE TODAY
For your free copy of the new manual, "How to Cut Industrial Waste Disposal Costs," or the name of the Dempster-Dumpster Contract Hauler in your area.



Dept. NE2 Dempster Brothers, Knoxville 17, Tenn.



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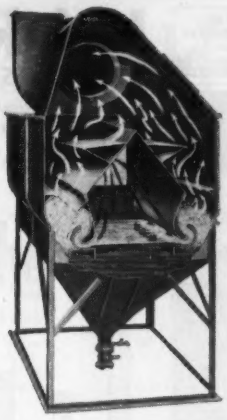
Type N ROTO-CLONE saves as it solves dust problems



Costs less to maintain! This wet-type collector requires no pumps or nozzles; features maintenance-free entrainment separators; has interior surface free of dirt-catching ledges.

Requires less space! ROTO-CLONE combines collector, exhauster, motor, drive and storage hopper in one compact package.

An outstanding performer! High cleaning efficiency results from centrifugal force and thorough intermixing of water and dust-laden air. Compensating water level feature assures high efficiency over wide range of exhaust volumes.

Available in exhaust volumes up to 50,000 cfm. Write for Bulletin 277.

American Air Filter COMPANY, INC.
391 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

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Because this has what it takes...

The rugged durability and extra value (Timken tapered roller bearings in every wheel, spring loaded non-kicking handle, slide planes for easy pallet entry and 360° lifting radius as standard) of the REVOLVATOR Red Giant hand lift pallet truck has built a reputation which means that...

We were called on to do this...

One of six basic models...REVOLVATOR Series 54.00 Go-Getter for use in explosion hazardous areas for chemical and related companies with Class I Group D or Class II Group G hazards designed at the request of one of the country's leading safety authorities. This electric lift truck meets requirements for both hazards and utilizes screw type housings hydrostatically tested to pressures far beyond those required. Additional safety feature—hydraulically operated disc brake.

Explosion-proof High-lift Go-Getter

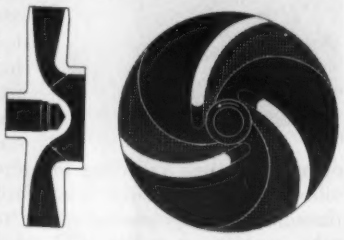
Therefore: Whether you need a standard piece of material handling equipment or specially designed equipment, call on

REVOLVATOR CO.
8732 TONNELE AVENUE, NORTH BERGEN, N.J.

▲ For more details circle NED-704 B9 on enclosed inquiry slip ▲

MOTORIZED PUMP impeller eliminates gas binding

Special impeller of this petroleum handling Vaporflow Motorpump eliminates binding and loss of prime. It is designed for flooded suction services where vortexing and vaporizing may develop. Passages of the three-vane impeller diverge toward the periphery instead of converging, and are contoured so that liquid leaves periphery faster than it enters the eye. This forms a partial vacuum into which gases or vapors rush and are thus conducted out of the pump without interferring with liquid flow, and without loss of prime. Sizes range from 2 through 7½ hp; threaded discharge connections, from 1½ to 3-in. diameter. Made by **Ingersoll-Rand Co.**, Phillipsburg, N. J.



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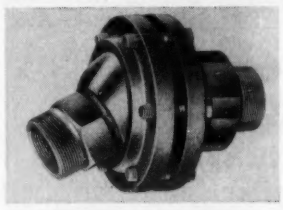
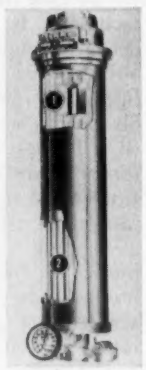
LARGE ADJUSTABLE JOINTS in 1½, 2, and 2½ in. sizes



Large size adjustable joints, for use in spray installations where variable angular adjustment of nozzle is desired, are for nozzles with 1½, 2, and 2½-in. NPT connections. They can be positioned at any point over a 40-degree included angle and 360-degree rotational range. Made by **Spraying Systems Co.**, 3211 Randolph St., Bellwood, Ill.

▲ For more details circle NED-706 B9 on enclosed inquiry slip ▲

PAINT HEATER safe heat radiates from center



With its heating element in the center surrounded by a finned metal jacket, this UL-approved paint heater obtains maximum heat transfer efficiency without dangerous high temperatures. The paint travels past the heater element through 22 long passageways equally spaced around the outside diameter of a cylindrical aluminum block. Block surface temperature is only a few degrees higher than the desired paint temperature, eliminating clogging or baking due to high temperatures. Heater is available for circulating or non-circulating paint systems, and for 115 or 230-v operation. Both models have a 1500-w heating element and a maximum capacity of 30 oz per minute at up to 160° F. Made by **Binks Mfg. Co.**, 3122 W. Carroll Ave., Chicago 12, Ill.

▲ For more details circle NED-707 B9 on enclosed inquiry slip ▲

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It's a cinch to install and operate a Rockwood Top Entry Ball Valve because square stem design permits handle to be placed in any of 8 positions! Simple to change direction of shut-off, too . . . merely remove handle and body cap and reverse cage assembly. Seat can be changed in minutes . . . or valve cleaned . . . because *all* moving parts lift out as unit for quick servicing on-the-line. Seats of Buna N, Teflon, nylon, or *Viton-A*. For oil, gas, or hazardous liquids.

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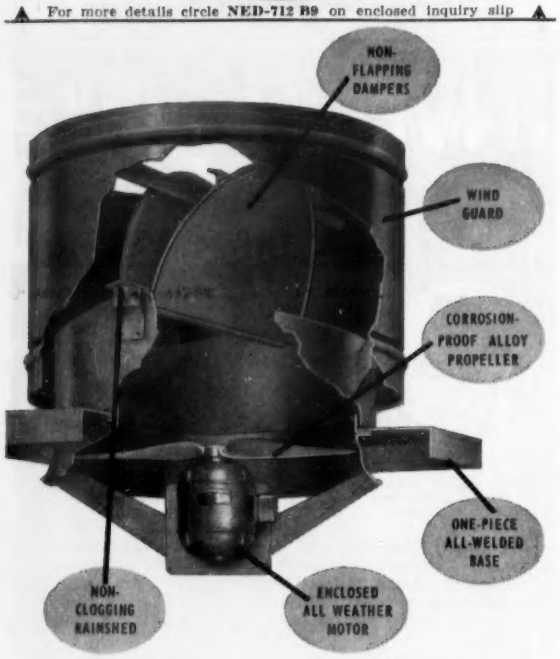

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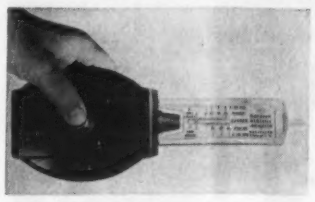
CARBON MONOXIDE INDICATOR
mechanical type shows 10 parts of CO per million parts of air

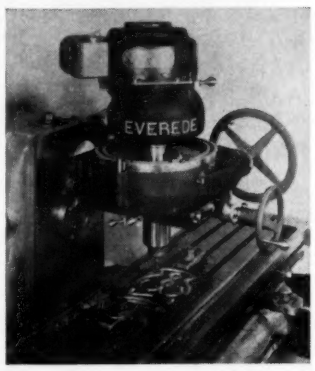


Pocket-size, mechanically - operated Monoxor carbon monoxide indicator can be used in presence of flammable gases since it has no electrical circuit. Test is made by depressing, then releasing the pushbutton of the sampling pump, drawing a controlled sample volume through the replaceable glass indicating tube. The tube contains a yellow CO-sensitive palladium compound impregnated with silica gel. Presence of CO in sample shows up as a brownish-gray stain on the tube's yellow gel. Per cent of concentration is established by measuring the stain's length.

Indicator has four scales, the range of each depending on the number of pump strokes. For seven pump strokes the scale range is 0.005 to 0.03 per cent. Thus, 10 parts of CO per 1 million parts of air can be read. Usable in ambients from −70 to 125° F, indicator is supplied with 12 indicating tubes and 6 tube caps in a metal carrying case. Made by **Bacharach Industrial Instrument Co.**, 200 N. Braddock Ave., Pittsburgh 8, Pa.

▲ For more details circle NED-714 B9 on enclosed inquiry slip ▲

ROTARY HEAD MILLER
attachment has six speeds, rotates 360 degrees in either direction



Horizontal or vertical milling machines can be equipped with this rotary head attachment which has a cross slide screw to offset the spindle from either end of the slide. Attachment is direct-driven through a silent V-belt drive by a ½-hp, 1200-rpm motor. Six speeds are provided. It has a double rotary worm shaft, the front shaft for exact rotation and a rear shaft for fast head rotation.

A 10-in. pitch diameter worm gear and spring pusher on the worm assure constant engagement with no backlash, permitting heavy climb milling cuts. Unit also features adjustable limit stops, built-in spindle lock, rotary degree scale, rotary dial with 1-min increments, and a cross-slide dial. Rotation is 360 degrees in either direction. Cross slide adjustment offsets spindle up to 3⅝ in. Made by **Everede Tool Co.**, 2000 N. Parkside Ave., Chicago 39, Ill.

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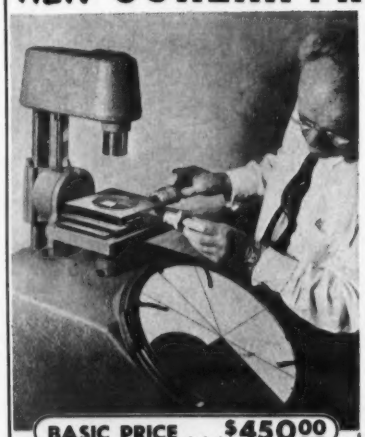
with the VERTICAL DESIGN
NEW IMPROVED Self-Contained MODEL
featuring



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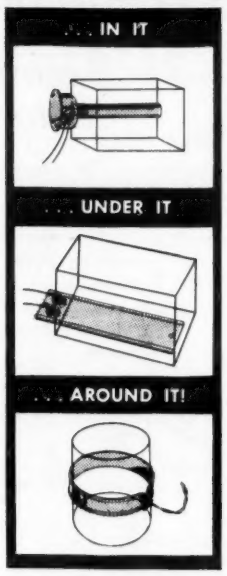
how to apply heat



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Exclusive steel stud permits 60% faster shelf adjustment on 1½" centers without nuts, bolts or tools. The more you load the shelf the tighter it grips, yet shelf may be moved easily.

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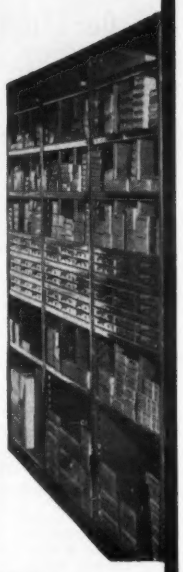

Stud eliminates clips, nuts, bolts and tools

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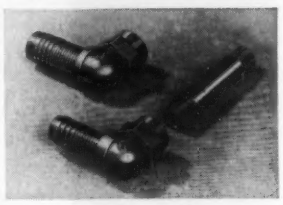
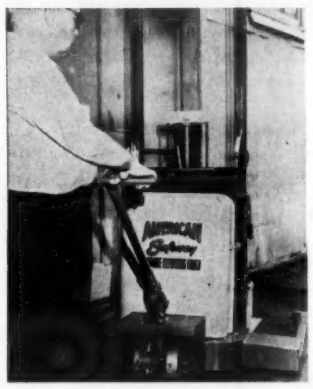
SPRINKLING SYSTEM FITTINGS made of high impact styrene plastic



Hexagon hub of Dur-X high impact styrene plastic sprinkling system fittings furnishes a good gripping surface for ordinary wrenches. The IPS threads are deep and accurate for tight connection. Reducing type elbows are offered as 1-in. insert by ¾-in. female thread and ¾-in. insert by ½-in. female thread. Also offered are 4 and 6-in. long nipples in ½ and ¾-in. sizes. Made by **Franklin Plastics, Inc.**, 316 Grant St., Franklin, Pa.

▲ For more details circle NED-722 B9 on enclosed inquiry slip ▲

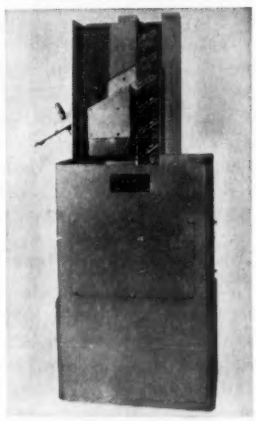
STEERING ATTACHMENT improves elevating truck handling



This swivel fifth-wheel and steering attachment for portable elevating trucks greatly facilitates turning and moving the truck. Load is carried on the large diameter, dual fifth-wheel. Hinged handle simplifies steering in both forward and backward moving. When not in use, handle is held in vertical position, out of the way. Made by **American Pulley Co.**, 4200 Wissahickon Ave., Philadelphia 29, Pa.

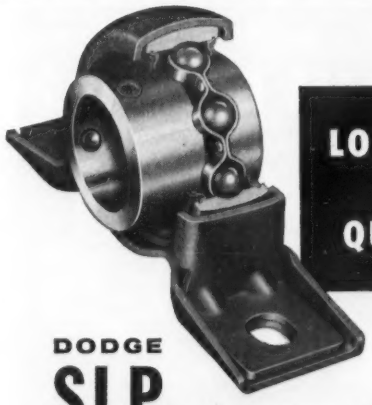
▲ For more details circle NED-723 B9 on enclosed inquiry slip ▲

AUTOMATIC FEEDER handles wide range of small parts



Various small parts are fed automatically and at high speed to fast production machines with the Feedall Model 2100 feeder. Unit handles practically any sliding part ⅛ to ¾ in. diameter and ½ to 2½ in. long, as well as rolling parts ¼ to 2 in. diameter and ⅛ to ¾ in. thick. Hopper capacity is 2 cu ft. The self-powered feeder measures 24 x 24¾ in. at the base, stands 50⅝ in. high, and is readily portable. Elevating belt width is 4 in., and part take-off can be from either side. Made by **Feedall, Inc.**, 38399 Pelton Rd., Willoughby, Ohio.

▲ For more details circle NED-724 B9 on enclosed inquiry slip ▲



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DODGE of Mishawaka, Ind.

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Quantity prices as low as $1.15 (Industrial Prices Only)

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— positive friction brake holds load in any position

You have to see a Peerless Pal to appreciate its compactness. The ¼-ton unit is packaged in an attractive metal box with carrying handle. The container is also capable of holding a capacity-doubling snatch block. The ½-ton unit is only slightly larger.

Lift a load, lower a load, drag a load smoothly with the entirely new Peerless Pal Lever Puller. A true friction brake holds it safely in any position. The Peerless Pal is so light and compact that it can be carried in the palm of your hand. Fully enclosed construction, too, makes it ideal for use in shops, on trucks, on farms, in service stations, on the highway, around boats. Write for Bulletin P-40 today.

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Plymouth Meeting 16, Pa.

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Complete flexibility, limitless signalling and charting possibilities. Easily adapted to your individual record requirements.

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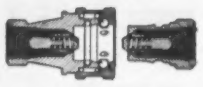
HERE'S THE COUPLING FOR THE JOB

HANSEN
SERIES HK

TWO-WAY SHUT-OFF COUPLING

shuts off both sides of line... prevents loss of liquid, gas or pressure



To connect a Hansen Two-Way Shut-Off Coupling, you merely pull back the sleeve and push the Plug into the Socket. To disconnect, just pull back the sleeve. No tools required. When Coupling is disconnected, similar valves in Socket and Plug shut off both ends of line – practically eliminate spilling of liquid or escape of gas at instant of disconnection.

Hansen Series HK Two-Way Shut-Off Couplings are available with female pipe thread connections from 1/8" to 1" inclusive. Available in brass or steel.

One-Way Shut-Off and Straight-Through Couplings also available.
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LIGHT, STRONG Alcoa® Aluminum shipping drums increase payloads, reduce dead weight and save on labor costs of handling and cleaning for re-use. They are made in a wide variety of types and sizes.

FREE TO MANUFACTURERS: In addition to such "standard" items as shipping drums for industry, Alcoa's Jobbing Division has the world's finest aluminum fabricating facilities for *subcontracting* to your order any aluminum components for anything you make. Sixteen-page free booklet describes how these facilities can save you tooling-up costs, lighten your production load and generally cost you *less* than if you shouldered the whole job yourself. For your copy, write or just clip and mail the coupon.

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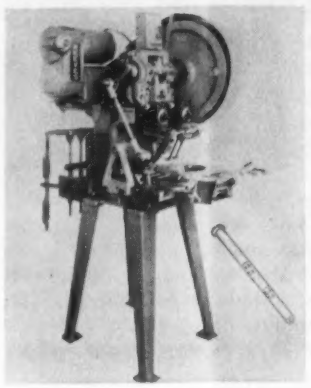
▲ For more details circle **NED-730 B9** on enclosed inquiry slip ▲

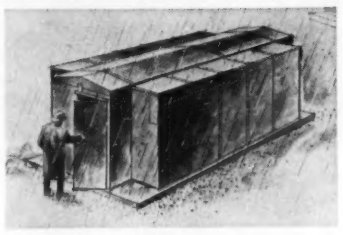
HOT STAMPING MACHINE
incorporates two marking heads



Dual hot stamping with individual dwell and pressure controls are incorporated in the Standard 2AH hot stamping machine. Driven by a variable speed motor, it has an improved dial feeding system. Machine is hand fed, but can be automatically fed if parts lend themselves to automatic positioning. Easily loaded 20-station dial feed makes possible speeds up to 4500 parts per hour. Each hot stamping head has its own temperature control and transfer foil automatic advance for perfect marking in any color. Sketch in photo shows polyethylene eye dropper marked with cubic centimeter calibrations. Made by **Acromark Co.**, 7-11 Morrell St., Elizabeth 4, N. J.

▲ For more details circle **NED-731 B9** on enclosed inquiry slip ▲

MOTOR CONTROL SHELTERS
protect outdoor installations



Shelter-Clad walk-in enclosures for protecting 2000 to 5000-v motor controls and personnel from the elements consist of two facing rows of Allis-Chalmers Type H motor controls bridged by a metal roof. Backs of the control cabinets form the outside walls of the unit which has a 5-ft wide aisle extending its full length. Doors are located at both ends. Basic unit can consist of any number of facing cabinets and any number of pairs of cabinets can be added or removed. Cabinets can be obtained without instrumentation and arranged to provide office and storage space. Bus ducting can be from overhead, below, or through the sides. Lights are optional. Enclosures meet NEMA 3 standards for weather resistance. Made by **Allis-Chalmers Mfg. Co.**, 918 S. 70th St., Milwaukee 1, Wis.

▲ For more details circle **NED-732 B9** on enclosed inquiry slip ▲

Constant-Temperature Lab Instruments

American Instrument Co.—Over 100 constant-temperature laboratory instruments applicable to every field of research, materials testing, quality control, and production are listed in 60-page Catalog 500. Baths, ovens, sterilizers, incubators, environmetal test equipment, steam-generating humidifiers, dry-ice cabinets, and various thermometers are reviewed. Temperature-conversion table is incorporated.

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The BALL Bearing for *all* your **LINEAR MOTIONS**

LOW FRICTION • ZERO SHAKE OR PLAY
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LONG LIFE • LASTING ALIGNMENT

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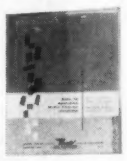
Truth is—if Sonic Energy can be applied to your cleaning problem effectively—you can't afford to be *without* it. In most Sonic Energy Cleaning installations, *the savings realized the first year more than pay for the original cost*—to say nothing of the additional advantages of fewer rejects and improved product performance.

As the pioneer and foremost authority on Sonic Energy, Bendix has *proved* these facts over and over. That's why today we can put so much experience to work on your problems.

One example of our ability to serve industry is our Sonic Energy Applications Laboratory. It is unequalled for facilities and practical production experience to provide the most efficient answer for cleaning applications that can use Sonic Energy to advantage.

To such professional capabilities, add the most complete and versatile line of Sonic Energy Cleaning systems, and you have the full reason why so many companies with a cleaning problem come to Bendix® for the answer.

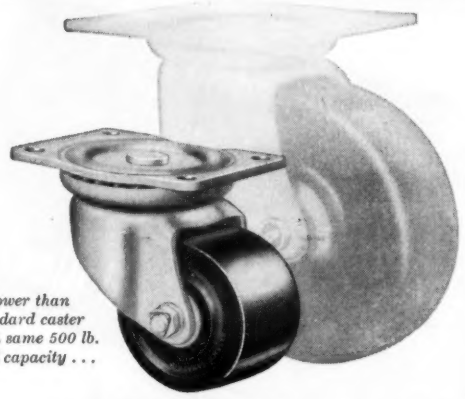
FREE! NEW REPORT ON SONIC ENERGY CLEANING NOW AVAILABLE



Explains in detail the principles and workings of this process. Illustrates, describes and analyzes typical results. Outlines five-step plan to help you determine feasibility of Sonic Energy Cleaning for you. To get your copy, write: PIONEER-CENTRAL DIVISION, BENDIX AVIATION CORPORATION, 2711 HICKORY GROVE ROAD, DAVENPORT, IOWA

Bendix AVIATION CORPORATION — SONIC ENERGY CLEANING

▲ For more details circle **NED-735 B9** on enclosed inquiry slip ▲



2" lower than standard caster with same 500 lb. load capacity . . .

New low-slung caster

Here's a 3" diameter wheel caster with a conservatively rated load capacity of 500 lbs. each, or 2000 pounds per set of four.

Especially desirable where low overall height is important, the caster raises load only 4 5/16" above the floor. It is designed for heavy business machines, and other heavy equipment that needs to be moved only occasionally.

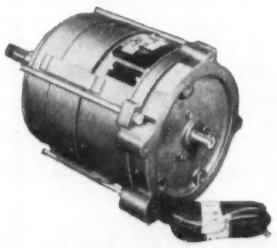
Unusual strength stems from the very wide (1 13/16") tread of the "Canaphin" phenolic-canvas molded composition wheel. The new wheel is mounted in a super heavy Series "S99" swivel caster. For further information, see your distributor or write to:

THE BASSICK COMPANY
BRIDGEPORT 5, CONN.
IN CANADA:
BELLEVILLE, ONT.

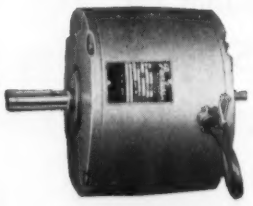
Symbol of SW Excellence — Bassick — A DIVISION OF STEWART-WARNER CORPORATION

▲ For more details circle **NED-736 B9** on enclosed inquiry slip ▲

MOTORS
for special OEM applications



SPECIAL CONSTRUCTION TO CUSTOMER SPECS



TOTALLY ENCLOSED SPACE-SAVER

Let your imagination run wild. Design your product to do a job. Peerless has designed hundreds of modified standard and special motors—one operates on the bottom of the sea . . . another on an underwater TV camera . . . one drives a pump handling atomic wastes. Peerless can do the same for you.

When you're ready for power, see Peerless. Our engineers will work with you to develop the motor that powers your product best. There's a Peerless representative near you. Call him today.

ELECTRIC MOTOR DIVISION
THE *Peerless-Electric*® COMPANY
FANS • BLOWERS • MOTORS
1527 W. MARKET ST. • WARREN, OHIO

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Convert to FLUID DRIVE in only 5 MINUTES!

Complete and ready to install in minutes . . . slips right over the motor shaft . . . that's the Twin Disc Hydro-Sheave® Drive. Hydro-Sheave Drives reduce starting current demands . . . permit selection of smallest motors . . . provide smooth, fast acceleration . . . protect against overloads, stalling and burn-outs . . . cushion out destructive shocks and vibrations. Twin Disc Hydro-Sheave Drives from ¾ to 50 hp at all nominal motor speeds . . . Fluid Couplings to 850 hp.

TWIN DISC
Friction Clutches and Fluid Drives

TWIN DISC CLUTCH CO. • Racine, Wisconsin

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CARING FOR WAXED FLOORS IS . . .

A cinch with Sanax

It waxes as it cleans!

REDUCES THE FREQUENCY OF REFINISHING

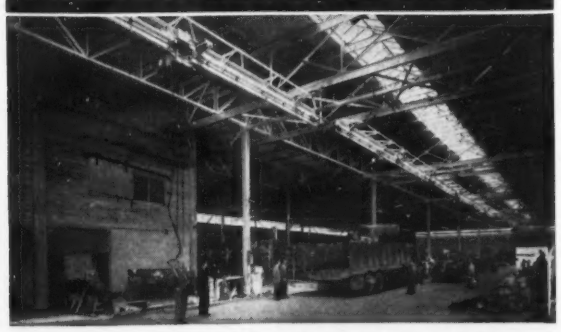
Sanax was developed to permit frequent cleaning of waxed floors *without washing away the finish* . . . and to eliminate waste in wax and labor. A neutral liquid soap with a wax base, *Sanax* not only quickly removes dirt, oil, and grease, but *leaves a thin film of wax*—a lustrous anti-skid protective finish. *Safe for all floors.* Highly concentrated . . . economical to use. For consultation, literature, or demonstration, phone or write nearest *Finnell Branch* or Finnell System, Inc., 5502 East St., Elkhart, Ind.

For machine-scrubbing or damp-mopping waxed floors

FINNELL SYSTEM, INC. Originators of Power Scrubbing and Polishing Machines — FINNELL — BRANCHES IN ALL PRINCIPAL CITIES

▲ For more details circle NED-739 B9 on enclosed inquiry slip ▲

What a Wonderful Warehouse!



7 Cranes interlock...Span 6 bays 340 ft. long!

Here's a metal distributing warehouse with no unloading docks! Seven American Monorail cranes unload directly from an indoor railway siding along one wall and from a 3-lane truck driveway thru the center of the building.

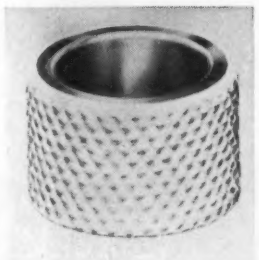
Transfer of loads from bay to bay poses no problem. All cranes interlock at fixed transfer points to allow swift transfer of stock to any point in any direction throughout this 340 ft. x 300 ft. warehouse!

A Monorail system can streamline your handling. Write for free literature.

AMERICAN MONORAIL 13116 ATHENS AVENUE CLEVELAND 7, OHIO

▲ For more details circle NED-740 B9 on enclosed inquiry slip ▲

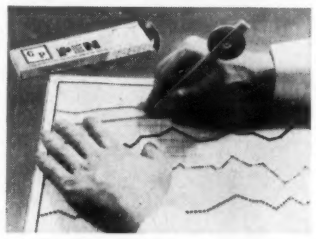
CERAMIC DRILL BUSHING
for use in plastic tooling



Thin shell of ceramic material 0.020 to 0.030 in. thick is fused onto the outer surface of Ceram-A-Grip drill bushing to create a heat barrier that insulates plastic potting material from heat build-up in the bushing. Designed for use with plastic tooling, the bushing prevents bushing misalignment and spin caused by softening of the plastic bonding material. Nominal diameters from 13/64 to 1 in., over-all lengths of ¼ to 1 in., and an inside diameter range from 0.0890-0.0995 in. to 0.5000-0.7656 in. are available. Made by **American Drill Bushing Co.**, 5107 Pacific Blvd., Los Angeles 58, Calif.

▲ For more details circle NED-741 B9 on enclosed inquiry slip ▲

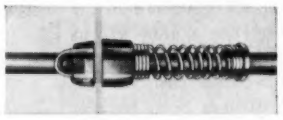
CHARTING TOOL
applies extremely narrow tapes



Made of colored plastic, the GP Pen makes possible fast, accurate placing of narrow tape lines on charts, layouts, and graphs. The lightweight, pencil-size tool has a cutting bar to cut off the tape at a desired point. It can be used with any Labelon narrow line tapes which range in width from ⅛ down to 1/64 in. and which afford ten distinct patterns and a choice of 14 solid colors. The No. 1 model holds 1/64 to 1/16-in. tapes, whereas model No. 2 is for ⅛-in. tape. Made by **Labelon Tape Co.**, 450 Atlantic Ave., Rochester 9, N. Y.

▲ For more details circle NED-742 B9 on enclosed inquiry slip ▲

STRAIN RELIEF BUSHING
nylon insulation protects wires

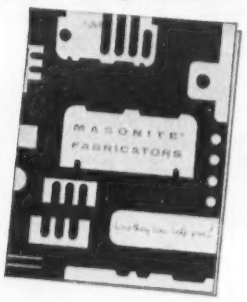


Low-cost Model 6S-1 nylon strain relief bushing for SJ wires and heavy duty heater cord is especially adaptable to heating appliances, portable electric tools, and vacuum cleaners. It has a positive wire grip and nylon insulation for protecting wire from heat, vibration, pull, and torque. A spring which locks into the Heyco bushing prevents sharp right angle bending, excessive wire flexing, and chafing at the chassis entrance. Hinged with a flexible nylon web, the bushing is easily snapped and locked in the chassis hole. It is UL and Canadian Standard Association approved. Made by **Heyman Mfg. Co.**, 100 Michigan Ave., Kenilworth, N. J.

▲ For more details circle NED-743 B9 on enclosed inquiry slip ▲

Smoother production of better products

FREE BOOKLET



tells how

MASONITE FABRICATORS

can serve you

Do you—or could you—use hardboard? If so, you'll want this free booklet. It holds the key to better product quality, faster production and lower costs, through the services of Masonite Fabricators.

They offer complete fabricating of Masonite® products, plus the help of designers and engineers experienced in using these dense, grainless panels.

Send for your copy now! Masonite Corporation, Dept. NED2, Box 777, Chicago 90, Ill.

MASONITE CORPORATION

®Masonite Corporation—manufacturer of quality panel products.

▲ For more details circle NED-744 B9 on enclosed inquiry slip ▲

ELIMINATE STOCK PUSHERS . . . . . FEEDOUT CAMS . . . .

with GREENLEE

AIR-FEED AUTOMATICS

You don't need costly stock pushers and feed-out cams with Greenlee Air-Feed Automatics. Air lines are connected to the tubes by quick couplings. Vacuum pumps withdraw pistons for fast restocking. Ask your Greenlee Representative to show you other ways of beating high production costs with Greenlee Air-Feed Automatics.

FAST SET-UPS BECAUSE . . .
- ✓ Wide-open tooling area
- ✓ Interchangeable tool holders
- ✓ Easy-to-change stationary type collets

WRITE FOR CATALOG A-405

GREENLEE

GREENLEE BROS. & CO.
1753 MASON AVE. ROCKFORD, ILLINOIS

▲ For more details circle NED-745 B9 on enclosed inquiry slip ▲

Coffing Quik-Lift Electric Hoist . . . 20 models from 1/4 to 2 tons

The new Coffing Quik-Lift coil chain electric hoist is easy to operate and light to handle. The aluminum housing is in sections for quick access to change voltages, limit switch, type of suspension or chain. The pistol-grip, push-button control permits up or down operation while pulling trolley mounted hoists. V-type brake gives maximum braking surface. Lubrication is sealed in for life.

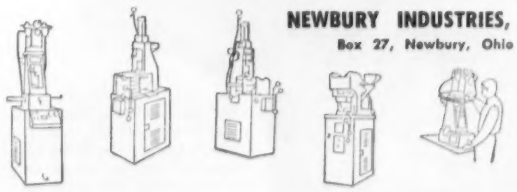
For details consult your Coffing Hoist Distributor or write for Catalog ADH-65. **Coffing Hoist Division of Duff-Norton Company, 803 Walter St., Danville, Ill.**

▲ For more details circle NED-746 B9 on enclosed inquiry slip ▲

Project Engineers:

THIS FREE BOOKLET IS A "MUST"...

If your problems involve injection molding of small plastic parts. Shows you how MINI-JECTORS® cut major costs. Produce: *QUICKER*—thousands of molded items often made before big press tooling is off design board; *BETTER*—award-winning quality and precision even with molds involving inserts or loose cores; *FOR LESS*—develop and produce molded items at fraction of big press tooling costs. Shows latest methods of developing and producing small (up to 1½ oz.) items in *all* thermoplastics, including Nylon. MINI-JECTOR machines from under $1,000 complete. Mold blanks as low as $29.50. *One user saved over $4,000 mold costs alone on one item.*



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For convenience clip coupon to your letterhead and mail.

▲ For more details circle NED-747 B9 on enclosed inquiry slip ▲

FOR FAST TALK THAT PAYS OFF

your business needs...

ELECTRONIC AMPLICALL INTERCOMMUNICATION

the "clear line" to everyone in your business...

available with privacy handset, light and chime signals

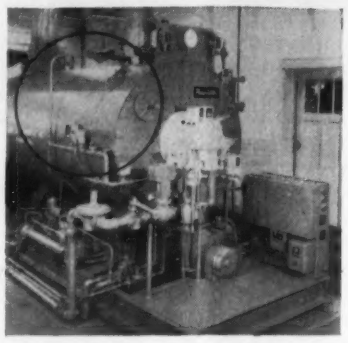
AMPLICALL saves time and cuts costs because it provides *2-second speech contact* within and between all departments of your business. At the touch of a button, you get information, issue instructions, hold conferences, speed action in plant and office. AMPLICALL takes the load off busy switchboards, ends wasteful walking and waiting—pays for itself in speedier, more efficient operations. There is an AMPLICALL system for your exact needs. Get the facts today.

See your Classified Phone Book under "Intercommunication" for the nearest AMPLICALL specialist—or write us direct for full details.

RAULAND-BORG CORPORATION
3535-H Addison St., Chicago 18, Ill.

For more details circle NED-748 B9 on enclosed inquiry slip

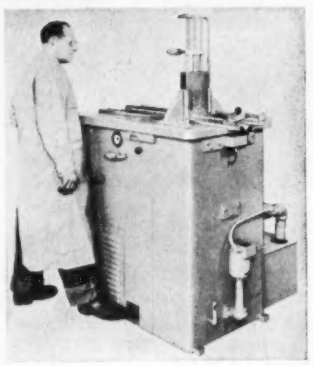
PACKAGED AUTOMATIC BOILER
now has steam-atomizing burner



Steam - atomizing burner system now available for Powermaster packaged automatic boilers successfully fires heavy low-cost oils such as Bunker C and No. 6. System can also be installed easily on existing air - atomizing Powermaster boilers. It uses steam from the boiler at 40 psi to break fuel oil into fine mist for firing, and air is used for start-up. Clean, efficient burning is afforded with this economical system. Made by **Orr & Sembower, Inc.**, Box 1138, Reading, Pa.

For more details circle NED-751 B9 on enclosed inquiry slip

CUT-OFF MACHINE
wheel is enclosed for safety



Wheel feeding and work clamping on the Bullard cut-off machine are semiautomatic. Hydraulic control is by a single foot valve, leaving both hands of the operator free for handling stock. Cutting speed is up to 2 sec per square inch, depending on the material. Pieces are cut to length to close tolerances with minimum burr or burn. The completely enclosed cutting wheel rises to cut the clamped stock when the foot pedal is depressed. Carbide tips on the material V-ways maintain squareness of cut. Metal and carbide-tipped saws may be interchanged with the standard 1/8 x 16-in. abrasive wheel for certain softer materials. Capacities are solids up to 2½-in. diameter, squares up to 1¾ in., angles up to 4 in. and tubing up to 4-in. OD. Machine can be used wet or dry. Made by **James Smith & Son, Inc.**, 982 Southbridge St., Worcester 10, Mass.

For more details circle NED-752 B9 on enclosed inquiry slip

Sunscreen

Reflectal Corp.—Methods of preventing the sun's heat and glare from entering through windows by the installation of KoolShade sunscreen are described in 8-page booklet. Its bronze construction is described, including the electrostatic application of Nubelon coating for weatherproofing. Case histories demonstrate savings in air conditioning tonnage.

For more details circle NED-753 B9 on enclosed inquiry slip

Sutton NEW IMPROVED MOTOR DRIVEN PRESSURE BLOWER

ONE-PIECE HOUSING
SELF-CLEANING WHEEL

For EXHAUSTING Dust . . Smoke Fumes . . Vapor
COOLING
DRYING
CONVEYING Cotton . . Wool Shavings
FORGE BLASTING

3 SIZES ¼, ½, 1 H. P.

STRONG . . LIGHT CAST ALUMINUM

Even, non-pulsating air flow . . 100-800 cu. ft. per min. at ½" to 6" static pressure. Straight wall construction cuts windage . . ups efficiency. 3450 r.p.m. direct connected 60-cycle motor . . open or totally enclosed. Set discharge in 8 different positions.

WRITE FOR DESCRIPTIVE LITERATURE

Sutton Manufacturing Corp.
112 W. WILSON AVENUE
NORFOLK, VIRGINIA

For more details circle NED-755 B9 on enclosed inquiry slip

BULK MATERIAL MEN:

AUTOMATE

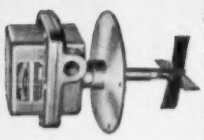
PRESENT EQUIPMENT FOR

BULK MATERIALS

HANDLING WITH

ROTO-BIN-DICATOR®

LOWEST COST MODERNIZATION



If you store, process or pack bulk material you can have automatic control of handling at nominal cost with a few Roto-Bin-Dicator bin level indicator units. Prevent waste, protect equipment, save repairs. Big savings year after year. U. L. Listed Standard and Explosion-Proof Units.

THE BIN-DICATOR CO. Write for detailed literature or call VAlley 2-6952
13946-A Kercheval • Detroit 15, Mich.

WE SELL DIRECT • PHONE ORDERS COLLECT

For more details circle NED-749 B9 on enclosed inquiry slip

FREE CUSHIONS*

NEW!

*ALL MEAD Dura-Life CYLINDERS

New line of Mead air cylinders, 16 sizes, mounts. Larger-than-ever ram bearing holds strict alignment, eases friction. Quick-detachable bearing cartridge to replace ram seals in minutes. Adjustable, convertible cushions, non-cushions or semi-cushions at either or both ends. Universal cylinders with interchangeable mounts (200 PSI). *Millions* of cycles prove they will take it. Get complete data from . . .

with **DOUBLE CUSHIONS** at ***NO EXTRA COST***

MEAD SPECIALTIES COMPANY
4114 N. Knox Ave.
Dept. NA-29
Chicago 41, Illinois

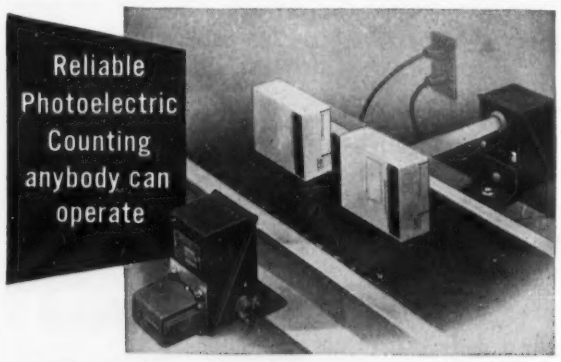
For more details circle NED-756 B9 on enclosed inquiry slip

Webster DIRECT READING
HYDRAULIC TYPE
FORCE GAUGES

Measures electrode pressure on spot welders and roll welders. Makes compressive tests on forming, dimpling and upsetting operations. Also useful for weighing. Insulated contact surface prevents damage if welder is accidently fired. Easy setups, no delicate mechanisms, 5 ranges: 0-1000, 6000, 10,000, 20,000, 40,000 lbs. 3½" diameter gauge with accuracy to 1%. Reads directly in pounds—no conversion scales. Write for details.

Webster INSTRUMENT, INC.
Dept. N, 11856 Mississippi Ave., Los Angeles 25, California

For more details circle NED-750 B9 on enclosed inquiry slip



AUTOTRON Counting Eye Features

No tinkering — there's nothing to adjust.

Reliability — proved through extensive use in nationwide service.

Endurance — gives years of heavy duty service.

Gasket-sealed cases of cast aluminum.

Adjustable mounting brackets.

Convenient access to tubes and lamps with mounting undisturbed.

Plugs in like a Lamp

Anybody can set up the Autotron Counting Eye. It comes completely assembled, wired and adjusted ready to plug in.

Just line up so the light beam shines into the counting eye; so each article interrupts the light beam 1/16 second or more; and so space following each article restores the light beam 1/16 second or more.

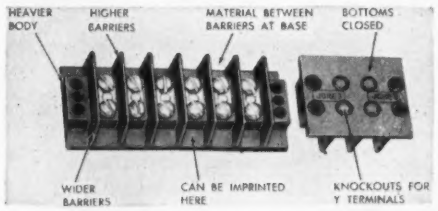
That's all it takes to count millions and millions, automatically – anything from powder puffs to pile driver strokes – even hot or freshly painted objects.

See your Autotron Representative or send for literature.

AUTOTRON, INC.
Box 722-DT. Danville, Ill.

For more details circle NED-754 B9 on enclosed inquiry slip

AT LAST—The IDEAL BARRIER TERMINAL STRIP



JONES 500 SERIES
LONGER—STURDIER

Wider and higher barriers for increased creepage distances. Closed bottoms for complete insulation. Material between barriers at the base adds to the strength and maintains the same creepage distance between contact to contact and contact to ground. Can be imprinted here. No insulating or marker strip required. Three series—540, 541 and 542 having the same terminal spacing as our 140, 141 and 142 series.

Complete listing in the new Jones No. 22 catalog. Write for your copy today.

Jones
HOWARD B. JONES DIVISION
CINCH MANUFACTURING CORPORATION
CHICAGO 24, ILLINOIS
SUBSIDIARY OF UNITED-CARR FASTENER CORP.

For more details circle NED-757 B9 on enclosed inquiry slip

WAGNER TYPE "DP" MOTORS

DOUBLY PROTECTED

1-125 HP

can be used in many places that formerly required splashproof motors

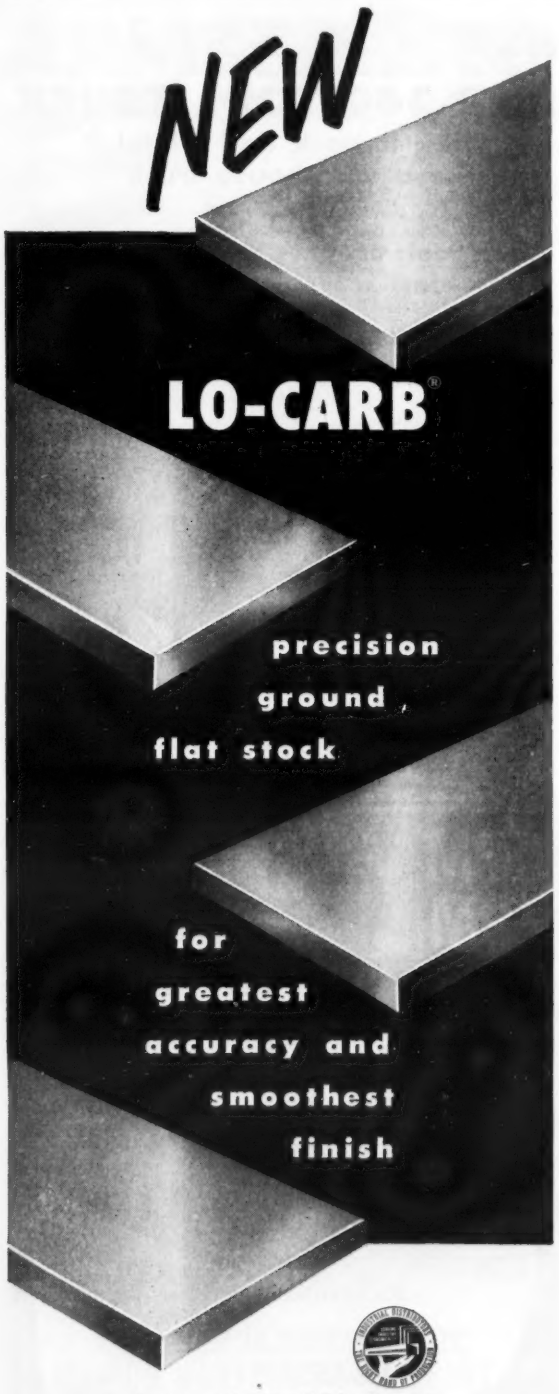
Wagner Type DP Motors offer the Double Protection of rugged, corrosion-resistant cast iron frames and dripproof enclosures. Built in the new NEMA frame sizes 182 through 445U.

The entire line of ratings through 125 hp is available with either ball bearings or steel-backed, babbitt-lined sleeve bearings. Contact the nearest Wagner branch office, or write for Bulletin MU-223.

Wagner Electric Corporation
SERVING INDUSTRY SINCE 1891
6485 PLYMOUTH AVENUE
ST. LOUIS 14, MO.

MOTORS • BEARINGS • STANDARD ROTORS
BRUSHES • CAPACITORS • COMMUTATORS

▲ For more details circle NED-758 B9 on enclosed inquiry slip ▲



See Your Capewell Distributor

CAPEWELL

THE CAPEWELL MFG. CO.
HARTFORD 2, CONN.

▲ For more details circle NED-759 B9 on enclosed inquiry slip ▲

New Processes and Materials

PLASTIC-METAL REPAIR KIT bonds to glass, plastic, metal

Consisting of 1 pt of clear Flawmaster epoxy and five jars of powdered metals, this 5-in-1 Plastic-Metal Kit is suited for repair, maintenance, and production uses. Any of the five different metal powders can be mixed with the epoxy for metallic filler or bonding needs, or the clear epoxy can be used to bond glass, plastic, wood, and other materials. Price is $15. Made by **Carl H. Biggs Co.**, Dept. 1072A, 2255 Barry Ave., West Los Angeles 64, Calif.

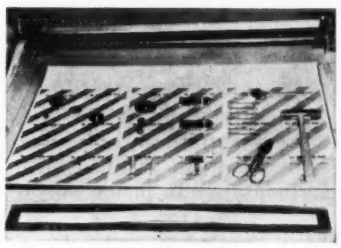
▲ For more details circle NED-760 B9 on enclosed inquiry slip ▲

BRAZING & SOLDERING KIT for emergency repair & upkeep jobs

Materials needed for many emergency repair and upkeep jobs are contained in the Kwik-Kit, a complete hard and soft soldering and brazing outfit. All metals except aluminum, magnesium, and titanium can be joined with the silver brazing alloy and soft solder provided in the kit. Fluxes for both are in hand-size unbreakable squeeze bottles. Contained in a rigid, transparent, covered plastic box, the kit sells for $8.60. Offered by **Special Chemicals Corp.**, 100 S. Water St., Ossining, N. Y.

▲ For more details circle NED-761 B9 on enclosed inquiry slip ▲

PLASTIC "SKIN" PACKAGING protects parts for handling



Handling, shipping, and protection of production units are expedited by low-cost "skin" packaging process. All types of industrial components can be protectively packaged in seconds with POM film. Parts are fully visible and protected against breakage, moisture, dust, and other harmful elements. A single heat and vacuum cycle draws the plastic film tightly around objects and seals film to cardboard on which parts are placed. Machines to perform packaging are available. Sample and advisory packaging service are offered. Developed by **Print-A-Tube Co.**, 114 Essex St., Rochelle Park, N. J.

▲ For more details circle NED-762 B9 on enclosed inquiry slip ▲

new from Taylor

Portable "Taylortest 1" Standard checks and calibrates amplifiers and process controllers

For checking, installing or servicing the Taylor TRANSET* Potentiometer Transmitters and allied equipment, the *Taylortest 1* is a combined precision signal source, full potentiometer, and milliammeter. Calibrates all forms of amplifiers or servomechanisms which convert small signal millivolts for control or transmission use. Self-contained—provides all facilities, accuracy, and convenience for testing—in field or laboratory. Call your Taylor Field Engineer or write Taylor Instrument Companies, Rochester 1, New York, or Toronto, Ontario.

*Reg. U.S. Pat. Off.

Taylor Instruments MEAN ACCURACY FIRST

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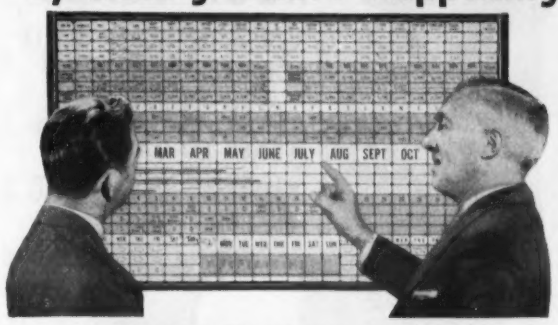
You Get Things Done Better By Seeing What's Happening



BOARDMASTER VISUAL CONTROL

- ★ Gives Graphic Picture of Your Operations in Color.
- ★ Facts at a Glance - Saves Time and Prevents Errors.
- ★ A Simple, Flexible Tool-Easily Adapted to Your Needs.
- ★ Easy to Use. Type or Write on Cards, Snap on Board.
- ★ Ideal for Production, Scheduling, Sales, Inventory, Etc.
- ★ Compact, Attractive. Made of Metal. 300,000 in Use.

Complete Price $49.50 Including Cards

FREE 24-Page ILLUSTRATED BOOKLET N-300 Without Obligation

GRAPHIC SYSTEMS, 55 West 42nd St., New York 36, N. Y.

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Make Certain It's GENUINE

IMS Silicone Spray MOLD RELEASE

It Isn't Size—It's Quality That Counts!

EXCLUSIVE ALL-METAL FAST-ACTING SPRAY HEAD ENDS FUMBLING, SPEEDS APPLICATION, SAVES CYCLE TIME!

DELIVERED PRICES
Single Can $2.00
Unbroken Dozen . . . $18.00
Unbroken Gross . . . $197.40
Lower prices on larger orders shipped on your schedule as needed.

(Molders who've tried them all always specify IMS Silicone Spray!)

REMEMBER
PREPAID SAME DAY SHIPMENT

INJECTION MOLDERS SUPPLY CO.
3514 LEE ROAD • WYoming 1-1424 • CLEVELAND 20, OHIO

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Get Longer Wear • Eliminate Splintering, Rusting and Corrosion

Spaulding VULCANIZED FIBRE
Materials Handling Products

Resistant to oils, greases, water.
Smooth — won't chip or split under hard wear.
Tough — built to withstand impact and abrasion.

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Spaulding Products for Materials Handling are made in all standard types and sizes, or custom-made to your special needs.

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Please send your free catalog of Spaulding Vulcanized Fibre materials handling products.

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WRITE FOR DESCRIPTIVE LITERATURE DEPT. S-24

MARTIN-DECKER CORP.
HOME OF THE WEIGHT INDICATOR — LONG BEACH, CALIFORNIA

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How To Plan A Better Warehouse

Here . . . at your fingertips . . . are the dollar-and-space-saving facts about handling unit loads in narrow aisles. Learn how you can store more goods in your present warehouse. Increase capacity as much as 50% . . . make new floor space more productive with narrow aisles. This new 24 page reference book contains complete specifications of Raymond hydraulic and electric pallet handling trucks for every size and type of operation. Profusely illustrated. Send for your FREE copy today!

RAYMOND

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FREE . . . "Pallet Handling in Narrow RAYMOND Aisles"

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____

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New Literature and Catalogs

Rotary Marking Machines

Acromark Co.—Model 9 automatic, semiautomatic, and hand operated rotary marking machines are detailed in illustrated No. 9 Catalog. Various models mark rounds with a flat die and flat with a round die. Specifications of all models are presented, along with design options.

▲ For more details circle NED-769 B9 on enclosed inquiry slip ▲

Stainless Welding Fittings

Chemetron Corp., Tube Turns Div.—Revised Catalog TT600 on line of Tube-Turn stainless steel welding fittings and flanges presents complete dimensional data. The 54-page booklet also provides updated technical data for allowable S-values, allowable working pressures of fittings, pressure-temperature rating of flanges, and corrosion resistance. Fittings covered include elbows, 180-degree returns, tees, crosses, lap joint studs ends, reducers, caps, and laterals.

▲ For more details circle NED-770 B9 on enclosed inquiry slip ▲

Centralized Control Systems

Panellit, Inc.—16-page Bulletin 106, entitled "From Concept to Construction," explains the design approach, materials, construction and modern facilities used in manufacturing a variety of centralized control and data presentation systems.

▲ For more details circle NED-771 B9 on enclosed inquiry slip ▲

Metal Furniture Finish

Pewtertone, the latest metal furniture finish introduced by this company, is effectively revealed in 24-page color Catalog 29 which shows many room installation and product scenes. Pewtertone is a metallic grey pewter finish on tubular steel in lustrous color. Write on company letterhead to The Howell Co., Contract Dept., St. Charles, Ill.

▲ For more details circle NED-772 B9 on enclosed inquiry slip ▲

Time Zone Map

Copperweld Steel Co., Ohio Seamless Tube Div.—A map showing standard time zones of the United States and Canada is again available. Printed in three colors, on an 8½ x 11-in. card, the map will prove useful to those who make frequent long distance phone calls or trips.

▲ For more details circle NED-773 B9 on enclosed inquiry slip ▲

Blowers & Vacuum Cleaners

Clements Mfg. Co.—Series of four data sheets respectively describe the Model L6 hot or cold air blower, Models J3 and H2 boosting blowers, Model 55 Quik-Vac standard 55-gal drum vacuum cleaner, and Model K, blowtorch which produces quick heat up to 2200° F.

▲ For more details circle NED-774 B9 on enclosed inquiry slip ▲

PRECISION CHAMPION®

NEW
short sleeve expanding mandrel

Champion precision expanding mandrels are now available with short sleeves which save 25% to 35% of your cost. Precision of .0002" T.I.R. in all sizes is guaranteed with 100% inspection before shipment. Standard sizes are available from 5/32" to 9½" O.D. All mandrels have several sleeve sizes to fit each arbor for greater economy. We have the mandrel that fits your requirements exactly—and we can supply most sizes from stock today.

Send for free catalog giving complete line, specifications and prices

THE WESTERN TOOL & MANUFACTURING CO., INC.
SPRINGFIELD, OHIO FAIRFAX 3-9151

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LOW COST AIR CYLINDER

The Only Air Cylinder
WITH ALL CONTROLS BUILT-IN

This air cylinder is a complete, "packaged" power unit. Electrical switching controls (1), four-way directional valve (2), and independent speed control valves (3), are all a built-in part of the unit. Only one air connection required yet unit is full double-acting. So revolutionary in design it is known as the Bellows Air Motor. Available in five bore sizes: 1¼", 1¾", 2½", 3⅝" and 4½". Virtually any stroke length. Optional choice of mechanical built-in valve controls.

Write today for free 4-color Booklet

Address Dept. NED-259. Ask for Bulletin BM-25. In Canada, write Bellows Pneumatic Products of Canada, Ltd., Toronto, Ontario.

739-B

The Bellows Co.
DIVISION INTERNATIONAL BASIC ECONOMY CORPORATION
AKRON 9, OHIO

▲ For more details circle NED-776 B9 on enclosed inquiry slip ▲

NEW Snap-on KRD-340 TOOL TRUCK

Rock it back and wheel it like a warehouse truck

Moves tools or parts — fast . . . upstairs . . . down narrow aisles . . . across the yard . . . over tracks.

SAVES TIME
SAVES MONEY

Call the nearest Snap-on branch or write direct

SNAP-ON TOOLS CORPORATION
8110-B 28th Ave. • Kenosha, Wis.

▲ For more details circle NED-777 B9 on enclosed inquiry slip ▲

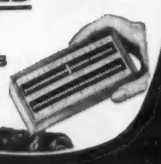
RPM FPM with STICHT TACHOMETERS

FOR SPOT CHECKS
. . . use centrifugal or chronometric HAND types

All speeds from 0-100,000 RPM

FOR STATIONARY MOUNTING
Flexible cable driven

TO MEASURE SPEED BY TOUCH
Vibrating Reed Types



BULLETIN NO. 1048

HERMAN H. STICHT CO., INC.
Tachometer Headquarters
27 PARK PLACE, NEW YORK 7, N. Y.

▲ For more details circle NED-778 B9 on enclosed inquiry slip ▲

SAVE STORAGE SPACE

SAVE HANDLING TIME

Brown Sectional Stock Racks store more stock in less space. Handling is reduced to a short lateral movement instead of a long laborious end-haul.

Brown Racks are unique in both flexibility and economy. Spaced as required they can be easily relocated . . . they are neither cross-braced nor floor-bolted. Accessories, including base brackets and trays, increase usefulness.

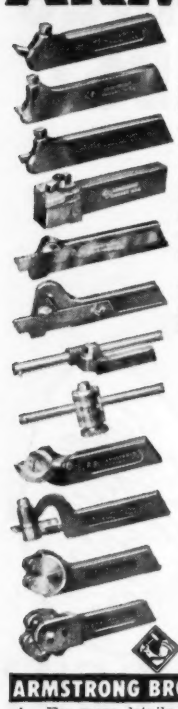
Brown Racks are quickly installed, all components are slip-fitted together. No bolting, no tools.

WRITE TODAY for complete information on how low-cost Brown Stock Racks can help solve your storage problems. Brown Engineering Company, 129 No. 3rd Street, Reading, Pennsylvania.

BROWN *Flexible* STOCK RACKS

▲ For more details circle **NED-779 B9** on enclosed inquiry slip ▲

ARMSTRONG TOOL HOLDERS



A Correct Tool for Every Lathe Operation

You can save time (and money) by ensuring that your machine tools are equipped with *adequate numbers* of the correct ARMSTRONG Tool Holders. The ARMSTRONG System of Tool Holders includes correctly designed tools for *every* standard operation on lathes, shapers, and planers, and for many operations on turret lathes and screw machines. By utilizing the ARMSTRONG System of Tool Holders, you can reduce tooling costs, eliminate down time in tooling up, operate your machine tools at maximum feeds and speeds.

ARMSTRONG Tool Holders are long-lasting tools. They are strong beyond need, handy and efficient, profitable to use, and are readily available from your local ARMSTRONG Distributor.

Check over your ARMSTRONG Tool Holder needs. Write for literature.

If you do not know the name of your local ARMSTRONG Distributor, inquire when asking for literature.

ARMSTRONG BROS. TOOL CO. 5045 W. ARMSTRONG AVE. CHICAGO 46, ILL.

▲ For more details circle **NED-780 B9** on enclosed inquiry slip ▲

New Processes & Materials

RUST PENETRANT
rapidly releases rusted parts

Penetrating rapidly, Whiting Rust Cutter breaks the bond on rusted bolts, nuts, hinges, pump shafts, chain drives, and pipe fittings which oxidation has held together. The instantly dispersed lubricating film coats the iron oxide so that the surfaces are easily separated. Various synthetic materials are blended with a light petroleum distillate to provide the penetrant with a good wetting action. Uses include removing pulleys and shafting, cleaning bearings, disassembling rusted automotive parts, and tearing down old machines. Whiting Rust Cutter is now offered in 16-oz Jet Spray-It cans, as well as in 1-pt pour spout cans and 1-gal cans. Trial spray can is offered for $1.65. Made by **Claronex Products, Inc.**, 239 Java St., Brooklyn 22, N. Y.

▲ For more details circle **NED-782 B9** on enclosed inquiry slip ▲

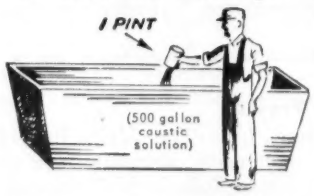
ELASTIC SEALER
excludes air, dust, dirt, and water

Of a caulking consistency that remains permanently elastic, P-606 Sealer has excellent adhesion to most materials including metal. Industrial uses include sealing against dust, air, dirt, and water in temperatures ranging from −40 to 160° F. It holds its position where applied without slumping, and it changes from a viscous fluid to a resilient plastic by solvent evaporation. Natural color is gray, but it can be pigmented. Extruded as received, sealer is applied by hand or pressure gun. One gallon covers approximately 300 linear ft with a ¼ x ¼-in. bead. Made by **Armstrong Cork Co.**, Industrial Div., 1270 State St., Lancaster, Pa.

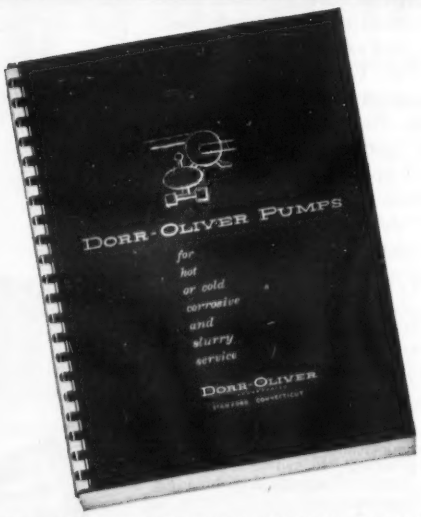
▲ For more details circle **NED-783 B9** on enclosed inquiry slip ▲

CAUSTIC SODA BOOSTER
makes solutions work faster, better

Used at a ratio of 1 pint to 500 gal of caustic solution, Alka-Strip Booster makes solutions work faster and better, and last longer. It replaces wetting, dispersing, settling, and softening agents. Sludge is agglomerated and suspended instead of going into solution, or settling on tank bottom. One pound reportedly will do the work of 100 times as much alkali additives. Activator is made by **London Chemical Co.**, Dept. NDC, 1535 N. 31st Ave., Melrose Park, Ill.



▲ For more details circle **NED-784 B9** on enclosed inquiry slip ▲



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101 Investment Bldg., Pittsburgh, Pa.
Tel.: Court 1-7092

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Tel.: Longacre 1-3025

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Kerr Bldg., Corner of Ft. and Beaubien Sts.
Detroit, Michigan
Tel.: Woodward 1-0590

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Tel.: Elgin 9-8731

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ALL YOU WANT TO KNOW ABOUT PUMPS for corrosive and slurry service

Complete engineering data—dimensions, performance curves, parts lists and specifications on the entire Dorr-Oliver line of alloy metal, lined and diaphragm-type pumps—*all in one big bulletin!* Here's everything you need to solve difficult pumping problems . . . just off the press!

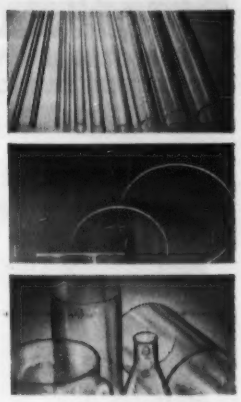
Write for your copy now, or contact the fully qualified Dorr-Oliver representatives and distributors listed at right.

DORR-OLIVER INCORPORATED
WORLD-WIDE RESEARCH • ENGINEERING • EQUIPMENT
STAMFORD • CONNECTICUT • U.S.A.

▲ For more details circle **NED-781 B9** on enclosed inquiry slip ▲

Having a problem with

1. Extreme Heat?
2. Thermal Shock?
3. Infrared Transmission?
4. Ultraviolet Transmission?
5. Chemical Corrosion?



Solve it with a VYCOR brand glass

Made with 96% silica, some can be used *continuously* at 900°C., intermittently to 1200°C. You can heat an object made from a VYCOR brand glass to cherry red and plunge it into ice water without breaking. One form is good for infrared transmission; another for ultraviolet. All are resistant to the attacks of most acids and alkalies. You can get VYCOR brand glass formed into practically any shape—containers, tubing, rod, flats. Write for Bulletin B-91 for complete details. Or tell us your problem.

CORNING GLASS WORKS
56 Crystal Street, Corning, New York
CORNING MEANS RESEARCH IN GLASS

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You may think that saws are saws. But there are "saws" . . . and, in a class by itself, the WALLACE MODULAR Cutting Unit that gives you

machined-like cut ends in seconds each! Not one end! But TWO CLEAN ENDS that may require no re-machining! For angles, bars, pipes, structurals and special shapes.

Want to increase your profits? Want greater efficiency in your metal-cutting operations?

WRITE TODAY

Your FREE 36-page booklet on Cut-Machining is waiting for you.

WALLACE SUPPLIES MFG. CO.

CUTTING MACHINES • BENDING MACHINES • FLARING MACHINES

1312 W. Wolfram Street • Chicago 13, Illinois

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Tumblette by Cook

37x30 GAS HEATED TUMBLER

PERFECT FOR MARINE AND INDUSTRIAL INSTALLATIONS

STEAM-ELECTRIC-GAS MODELS AVAILABLE, AC POWER, ECONOMICAL, EFFICIENT OPERATION ANYWHERE!

TUMBLETTE by COOK

ideal for . . .

- Factories
- Industrial plants
- Offshore Drilling Rigs
- Construction camps
- Tankers, barges
- Field camps

TUMBLETTE available in baked-on enamel or STAINLESS STEEL, resists salt air corrosion, operates well under adverse and tropical conditions.

TUMBLETTE saves time, money, manpower. Write for full information and FREE brochure.

If you have a special laundry problem, write us—no obligation.

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48-Hour Shipment on all Standard Models

Cook Machinery Co., Inc.

4301-T S. Fitzhugh Ave. Dallas 10, Texas

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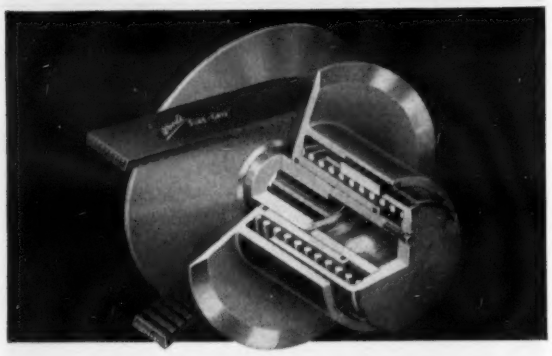

NEW WOOD'S VARIABLE SPEED PULLEYS ACTUALLY ELIMINATE FREEZING, STICKING

Wood's new motion control pulleys not only permit accurate, infinite speed adjustment, but completely eliminate fretting corrosion, freezing, sticking. Externally located, resilient keys do not obstruct the flow of oil around bearing surfaces. Positive, rotational pumping action re-oils these surfaces with each rotation of the pulley. No downtime. No periodic running through the speed range. Require oil check only twice a year in normal operation. *WRITE FOR BULLETIN 4101.*

T. B. WOOD'S SONS COMPANY

CHAMBERSBURG, PENNSYLVANIA

ATLANTA • CAMBRIDGE • CHICAGO • CLEVELAND • DALLAS • NEWARK

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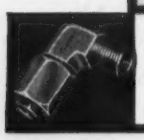


Pick the right tube fitting quicker with this 128-page Parker Data Book

All the data to design or "tube up" an industrial system is included in this 128-page Parker Tube Fittings Catalog. Guides you in proper tube selection. Gives installation hints, also descriptions and dimensions of all Parker Fittings: "Triple-lok," "Ferulok," "Intru-lok," "Weld-lok," "Braze-lok," in steel and stainless steel, copper, aluminum, brass, for any industrial system from instrument lines to high pressure hydraulic lines.

Ask your Parker distributor, listed in the Yellow Pages, for a Parker 4300 Catalog. Or write . . .

Parker FITTINGS AND HOSE DIVISION

17325 Euclid Avenue • Cleveland 12, Ohio

A DIVISION OF PARKER-HANNIFIN CORPORATION

▲ For more details circle NED-789 B9 on enclosed inquiry slip ▲

New Literature & Catalogs

High Velocity Panel Filter

Farr Co.—Details on company's standard Type 44 high velocity panel impingement filter are furnished in 4-page Bulletin B-100-2B. Filter has a fine wire mesh formed in alternate layers, in flat and herringbone crimp. Air passing through changes direction frequently, impinging dirt on the fine wires. Unit is 99 per cent efficient in the 40-80 micron range, 37.7 per cent efficient in the 0-5 micron range.

▲ For more details circle NED-790 B9 on enclosed inquiry slip ▲

Sheathed Cable

Simplex Wire & Cable Co.—Unusual 14-page Form 1031 presents construction, installation, and engineering data, as well as test results and ordering information relative to C-L-X Sheathed cable. Lightweight, exterior metallic cable sheath is impervious to gases, chemicals, and water. Construction includes a thermoplastic covering.

▲ For more details circle NED-791 B9 on enclosed inquiry slip ▲

Teflon Laboratory Items

Kontes Glass Co.—Substantial price reductions on nearly all Teflon and Teflon-glass laboratory products is explained in 8-page illustrated Bulletin TP-1. Items affected include burettes, chromatographic columns, funnels, gas collecting tubes, stirrer blades, pipettes, stopcocks, stopcock plugs, flask-length stoppers, tissue grinder pestles, beakers, and evaporating dishes.

▲ For more details circle NED-792 B9 on enclosed inquiry slip ▲

Electrical Impulse Counters

Presin Co.—Electrical impulse counters in both reading and printing styles are reviewed in small 28-page booklet printed in West Germany. Both mechanical and electrical reset are afforded in the Elmeg units, designed principally for operation on up to 60 v dc. Standard models operate at counting rates up to 10 impulses per sec. A maximum of 50 impulses per sec is possible.

▲ For more details circle NED-793 B9 on enclosed inquiry slip ▲

Fluid Power Equipment

Oilgear Co.—Specifications, illustrations, and descriptive matter on a complete line of industrial fluid power equipment are furnished in 12-page Bulletin 10051-G. Included in the listing are variable one and two-way pumps, constant delivery feed pumps, reversible motors, variable speed transmissions, cylinders, various valves, and accessories.

▲ For more details circle NED-794 B9 on enclosed inquiry slip ▲

Underdrive Stamping Presses

Alpha Press & Machine, Inc.—The Alpha line of high-speed, two-point, underdrive stamping presses covered descriptively in 12-page Bulletin 855P provides capacities from 50 to 300 tons. Roll feeds and scrap cutter are an integral part of the press design. Slide is pulled down from both sides with two eccentrics, assuring alignment between bed and slide.

▲ For more details circle NED-795 B9 on enclosed inquiry slip ▲

Small Precision Machine Tools

Louis Levin & Son, Inc.—44-page 1958 Catalog is descriptive of a line of precision machine tools which includes heavy duty instrument lathes, micro drill presses and machines, and a complete line of accessories and tools for all types of precision second operations, tool making, instrument work, and machining. Lathes have 3.94-in. swing and 18-in. bed, and are also offered in turret types.

▲ For more details circle NED-796 B9 on enclosed inquiry slip ▲

Faucets for Special Needs

Chicago Faucet Co.—64-page "Sketch Book of Special Fixtures" presents a complete array of special-purpose water faucets. Offered as a work book, the Sketch Book provides detailed dimensions and roughing-in data. Faucets feature a standard interchangeable operating mechanism which facilitates minor servicing or complete renewal in minutes.

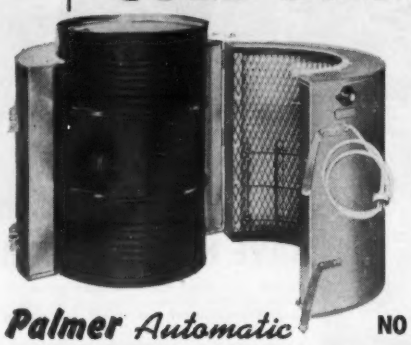
▲ For more details circle NED-797 B9 on enclosed inquiry slip ▲

Instrument Cases

TA Mfg. Corp.—20-page Design Manual 401G deals with standard and special instrument cases which afford protection, lend usability, and facilitate handling of all types of research, test, and other instruments. Contents are prepared especially for design engineers who have interest in portable instrument cases. Design features, available constructions, materials, and other factors are covered.

▲ For more details circle NED-798 B9 on enclosed inquiry slip ▲

COLD DRUMS?



It's Easy to Remove Viscous Materials from Steel Drums

Palmer Automatic NO HOT SPOTS

ELECTRIC DRUM WARMER

Whether it's by dipping, pouring or pumping, this portable electric oven makes removal of contents of metal drums fast, easy and convenient. Our warmers are complete units, insulated, thermostatically controlled, electrically grounded and perfectly safe for the operator. They come in models for all voltages, single or three phase, so as to keep your electrical load balanced and switch gear and wiring at lowest amperage.

THERE IS NOTHING MORE TO BUY OR ATTACH —THE WARMER IS READY TO GO TO WORK!

HAROLD L. Palmer COMPANY

28625 GRAND RIVER, FARMINGTON, MICH. PHONE GReenleaf 4-4350

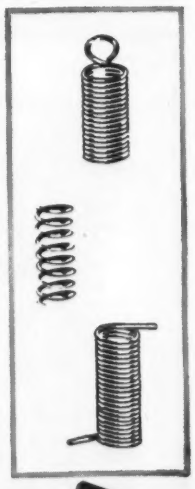
▲ For more details circle NED-799 B9 on enclosed inquiry slip ▲

MAKE SPRINGS IN SECONDS!

Save Costly Special Orders

with the NEW DI-ACRO SPRING WINDER!

This unique machine eliminates costly special spring orders, saves valuable waiting time. Winds compression and extension springs from ¼" to 1½" O.D. Handles round, flat and rectangular wire to ⅛" dimension. Note exclusive features in the hand operated Di-Acro Spring Winder which assure accurate tension and fast operation without special experience or skill.



NEW TENSION CONTROL—Simply adjust to desired tension—the control keeps it uniform, for winding one spring or hundreds, and releases when each spring is wound.

NEW WIRE CUT-OFF—After spring is wound, release tension and use cut-off lever to quickly cut end of spring.

NEW CAM LOCK—Simply feed wire under cam, turn handle and wire is securely locked to arbor while spring is wound. No threading required.

FREE ENGINEERING SERVICE

Send us your spring forming problems—sample or dimension sketches—together with sufficient test material, and let us wind some sample springs for you. No obligation.

44-Page Catalog gives full details on all Di-Acro Precision Machines—Consult the yellow pages of your phone book for the name of your nearest Di-Acro distributor or write:

di-acro PRECISION METALWORKING MACHINES

pronounced Die-ack-ro

O'NEIL-IRWIN MFG. CO.

354 8th Ave. • Lake City, Minnesota

▲ For more details circle NED-800 B9 on enclosed inquiry slip ▲

NEW MINIATURE AGASTAT® time delay relay

for missile, aircraft and electronic applications

INSTANTANEOUS RECYCLING . . . reset time—less than .020 seconds

UNAFFECTED BY VOLTAGE VARIATIONS . . . time delay remains constant from 18 to 30 volts DC

ADJUSTABLE . . . time delays from .030 to 120 seconds

CHOICE OF OPERATION . . . for either energizing or de-energizing

SMALL . . . height—4⅝" . . . width—1 13/16" . . . depth—1½"

LIGHT . . . maximum weight—15 ounces

MEETS ENVIRONMENTAL REQUIREMENTS OF MIL-E-5272A

This new AGASTAT time delay relay is an externally adjustable, double-pole, double-throw unit. It incorporates the basic AGASTAT timing principle, proved by a half-century of reliable operation on automatic aids to navigation, in a space-saving miniature unit built to withstand the rugged environmental conditions of missile and aircraft applications.

For specific information on the new AGASTAT relay for your application, write to Dept. A 30-25

AGA DIVISION ELASTIC STOP NUT CORPORATION OF AMERICA
1027 Newark Avenue, Elizabeth, New Jersey
Pioneers in pneumatic timing

▲ For more details circle NED-801 B9 on enclosed inquiry slip ▲

RUST?

Turco Alkaline Rust Remover strips rust, paint, primer

- WITHOUT ACIDS Eliminates hazards encountered with acid de-rusting materials.
- IN 2 EASY STEPS Just dip, then rinse. Rust, paint and primer are all removed.

Now, with Turco Alkaline Rust Remover, you can strip the heaviest rust, along with paint and primer . . . and do it *all in minutes* in one simple 2-step operation.

Non-acid Turco Alkaline Rust Remover does *not* affect dimensional tolerances or cause hydrogen embrittlement. Moreover, it eliminates five of the seven steps required by the obsolete method of rust and paint removal.

With Turco Alkaline Rust Remover you just dip and rinse. That's all there is to it!

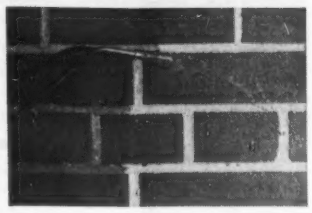
WRITE FOR FULL DETAILS *on Turco Alkaline Rust Remover. No cost or obligation.*

TURCO PRODUCTS, INC.
Chemical Processing Compounds
6135 So. Central Ave., Los Angeles 1, Calif.
Factories: Newark, Chicago, Houston, Los Angeles, London, Rotterdam, Sydney, Mexico City, Naha (Okinawa)
Manufactured in Canada by B. W. Deane & Co., Montreal
Offices in all Principal Cities

▲ For more details circle NED-802 B9 on enclosed inquiry slip ▲

New Processes & Materials

WATER REPELLENT
lasts over 5 years on masonry



Clear 770 water repellent for mortar, brick, concrete, or other masonry produces a water resistance that usually lasts over 5 years. It can be diluted with plain mineral spirits, and its color as shipped (33 per cent solids) is less than 120 on the APHA scale. At 10 per cent solids, its color is less than 50. Photo shows that 770 retains its original "sparkle" when splashed with water after 6 months exposure to winter weathering. Developed by **Dow Corning Corp.**, Box 592, Midland, Mich.

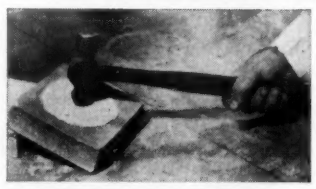
▲ For more details circle NED-804 B9 on enclosed inquiry slip ▲

ACOUSTICAL FABRIC
flexible type dampens sound

Sound dampening properties of Coustifab acoustical fabric make its use feasible in jet aircraft where low frequency engine sounds are prevalent, or to dampen the sound of office machines. It consists of either cotton or glass fiber fabric treated with a vinyl plastisol containing powdered lead. Resultant fabric is exceptionally flexible and of sufficient mass to absorb low frequency sounds. Other uses are as lightweight aprons and wall coverings in x-ray rooms for radiation protection. Various weights to meet aircraft requirements are available. Made by **Cordo Chemical Corp.**, Mobile Plastics Div., 34 Smith St., Norwalk, Conn.

▲ For more details circle NED-805 B9 on enclosed inquiry slip ▲

CONCRETE BONDING AGENT
joins wet concrete to cured concrete



Permanent joint and a water and vapor barrier are formed by Uniweld structural concrete bonding agent, an "alloy" of epoxy and nylon type synthetic resins for joining fresh wet concrete. Tension, compression, shear, and impact tests reportedly show that the bond is stronger and tougher than fully hardened concrete. Bonding agent adheres well to brick, stone, cinder block, gypsum block, and other commonly used building materials. Two components are mixed in equal volume to start the curing cycle, and a thin coating is applied by roller, brush, or spray. Fresh concrete is poured about 15 min later. Pot life of the mixed Uniweld is 1 to 2 hr, depending upon temperature. One gallon covers up to 200 sq ft. Made by **Permagile Corp. of America**, 34-43 56th St., Woodside 77, N. Y.

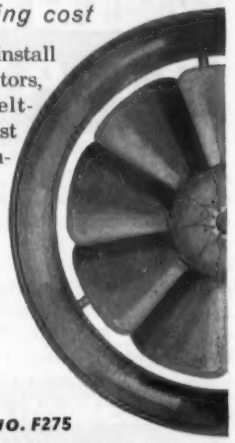
▲ For more details circle NED-806 B9 on enclosed inquiry slip ▲

OSCILLATORS
AIR CIRCULATORS
EXHAUST

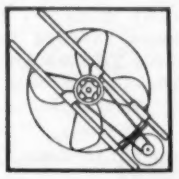
FANS

BY EMERSON-ELECTRIC

low initial cost
low operating cost



You save money when you install quiet, efficient fans — oscillators, air circulators and both belt-drive and direct-drive exhaust fans—backed by the Emerson-Electric famous factory-to-user guarantee.



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EMERSON ELECTRIC of St. Louis • *Since 1890*
8100 FLORISSANT AVE. • ST. LOUIS 21, MO.

▲ For more details circle NED-807 B9 on enclosed inquiry slip ▲

put your upper space to work!

get your materials off the ground with **EMI RACKS**

you can stack or ship anything in any industry on **EMI RACKS**

COMPLETE METAL WORKING FACILITIES INCLUDING . . .

TUBING—Square, Round, Rectangular and special shapes
WIRE MESH—All Gages
SPECIAL FABRICATIONS

Write for complete catalog!

EQUIPMENT MFG. INC.
21566 HOOVER ROAD
DETROIT 5, MICHIGAN

▲ For more details circle NED-808 B9 on enclosed inquiry slip ▲

TRUCO® DOES IT AGAIN!!! TRIMS 70% FROM COST of previous unsuccessful methods in drilling reinforced concrete for test cores

JOB: Cut 60 holes 4" diameter through 8" reinforced concrete walls in storage elevators to get sample cores for determining compression strength of concrete. All previous methods used attempting to get these cores were abandoned because maximum cores obtained were only 4" long and, therefore, insufficient for adequate compression test.

JOB SITE: Glidden Company, Chicago; storage elevators.

DRILLING CONTRACTOR: Jones Hettelsater Contr. Company, Kansas City, Mo.

TOOLS: Truco Heavy Duty 1000 rpm Hand Drill with integral Truco Water Swivel and Truco Diamond Drill Bit 4" O.D. The drill motor was mounted on Truco Drill Stand.

OPERATION: Drilling was done from a small swing scaffold suspended at heights of 43 to 88 feet on the wall of the elevator. To assure good leverage for drilling, the Drill Stand was anchored to the wall of the elevator with two ¼" bolts set in Ackerman anchors. Holes are provided in the base of the Drill Stand for this purpose.

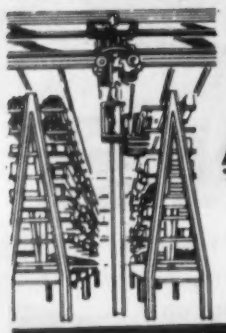
DRILLING TIME on each hole was 5 minutes and an average of 20 minutes was required to set up and anchor the machine at each hole. The time for raising and fastening the scaffold, connecting water hose, etc., was 30 minutes per hole. Compare this with 3 hours per hole using a carbide core bit.

All 60 cores were drilled with a single Truco Diamond Bit which had about 40% of usable drilling life left in it at the end of the job. Drilling cost showed a reduction of 70% over previous methods.

Write for your distributor's name.

TRUCO MASONRY DRILLING DIVISION
WHEEL TRUEING TOOL CO.
66-3200 W. Davison Avenue
Detroit 38, Michigan

▲ For more details circle NED-803 B9 on enclosed inquiry slip ▲



use your Air rights . . .

INCREASE HANDLING EFFICIENCY, SPEED MATERIAL MOVEMENT, SAVE SPACE, TIME, MONEY WITH

TRAK-RAK®

A TRAK-RAK System saves valuable floor area by permitting vertical material storage and handling, yet provides faster, safer in-and-out of storage handling than on the floor operation. TRAK-RAK gives you better inventory and parts control, lowers handling costs, improves material delivery. Over 200 TRAK-RAK systems installed in companies like Alcoa, Carson Pirie Scott & Co., Chain Belt Co., Du Pont, Westinghouse, General Electric, etc.

Write for complete details on the TRAK-RAK system of vertical storage and handling.

CTC CHICAGO TRAMRAIL CORPORATION
1310 S. Kostner Avenue • Chicago 23, Illinois

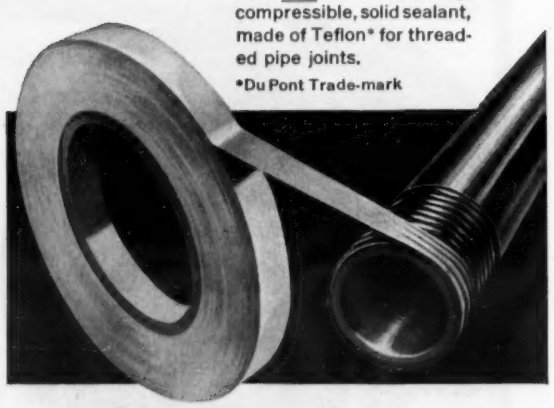
For more details circle NED-809 B9 on enclosed inquiry slip

whatever the threaded joint . . .

NEW **PERMACEL** RIBBON DOPE
TRADE-MARK
THREAD SEALANT

The only self-lubricating, compressible, solid sealant, made of Teflon* for threaded pipe joints.

*Du Pont Trade-mark



PERMACEL *New Brunswick, N.J.*

TAPES • ELECTRICAL INSULATING MATERIALS • ADHESIVES

For more details circle NED-810 B9 on enclosed inquiry slip

COMPARE Hi-Lo CLAMPING WITH YOUR PRESENT METHOD

Buy This Hi-Lo STARTER SET for $55

Machine-Tool Clamping System

With the Hi-Lo Clamping System, you can save money, time and labor. This system leads to safe, rigid, parallel clamping on T-slot tables or bolster plates.

The Hi-Lo Starter Set makes one clamp for any toolroom or job-shop setup between ⅜ and 11". More important, it lets you compare the Hi-Lo System on the same jobs with your present methods. Bolt length and heel-block height are adjustable over the full range of the clamp.

Complete milling machine and boring machine sets are available or you can build up your system to meet your own clamping needs. Full allowance for Starter Set given when purchasing a larger set.

Write for literature and names of distributors.

Hi-Lo PRODUCTS COMPANY
Division of Steel City Testing Machines, Inc.
8819 Lyndon Ave. • Detroit 38, Mich.

For more details circle NED-811 B9 on enclosed inquiry slip

New Literature & Catalogs

Over 1000 Optical Items

Edmund Scientific Co.—Such quality control aids as measuring magnifiers, microscopes, pocket comparators, illuminators, and projection sets are among the optical goods described in illustrated 96-page catalog. Listed are over 1000 items, including hand and pocket spectroscopes, reticles, mirrors, photographic items, and binoculars.

For more details circle NED-812 B9 on enclosed inquiry slip

Good Drafting Programs

Filmsort Co.—Importance of co-ordinating drafting between engineering and manufacturing, controlling engineering changes, standardizing engineering forms and procedures, and using functional drafting, freehand drawing, and arrowless dimensioning to save time are spelled out in 8-page article, "More Engineering for Less Cost," written by a G-E drafting consultant. Illustrative examples are included.

For more details circle NED-813 B9 on enclosed inquiry slip

Water Heating Converters

Patterson-Kelley Co.—Easy-to-read tables in 12-page Bulletin 303-A show how to select the proper converter for industrial water heating applications. Construction and operating data and technical information on capacities, temperatures, and pressure losses are included.

For more details circle NED-814 B9 on enclosed inquiry slip

Stainless Steel Tubular Products

Babcock & Wilcox Co., Tubular Products Div.—Data on analyses, corrosion and oxidation resistance, high and low temperature characteristics, and physical and mechanical properties are included in 8-page Bulletin TDC-190 on stainless steel tubular products in the 18-8 group. Covered are tubing, fittings, and flanges.

For more details circle NED-815 B9 on enclosed inquiry slip

Solder Joint Valves

Kennedy Valve Mfg. Co.—Distortion-resisting, cylindrical-shaped body and improved Kenalloy stem for long life are features of line of solder joint valves for use with Type K, L, and M copper tubing. Gate, globe, and check types of valves for steam, water, oil, or gas lines are covered in 4-page Folder 581.

For more details circle NED-816 B9 on enclosed inquiry slip

Military Component Facilities

Singer Mfg. Co., Military Products Div.—Text and over 70 illustrations in 28-page booklet survey the extensive facilities of this division for developing military goods from concept to hardware. It shows the division's functions in operations and systems research, electronic and electromechanical systems, radar relay and infrared reconnaissance systems, electronic computers, low inertia servomotors, timers, and sealed high voltage switches.

For more details circle NED-817 B9 on enclosed inquiry slip

Measure Tension and Compression Loads

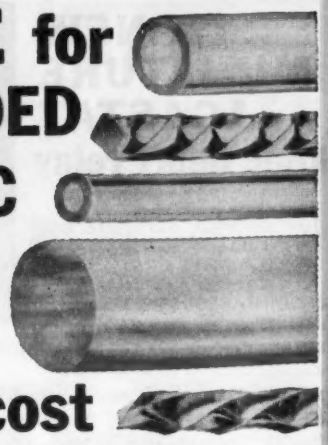
with precision, direct reading Hunter Mechanical Force Gages*—Series L type in 13 models for measuring load ranges from 0-500 grams to 0-30 pounds and Series D type in 5 models for measuring load ranges from 0-50 pounds to 0-200 pounds. Both types are accurate to better than 1% of full scale, can be provided with a "hold-at-maximum" indicator for registering maximum load, come complete with six attachments and wood carrying case. Thousands are now in use in laboratories, inspection departments, on production lines, and in the field. Send for Bulletin 750c containing full details including prices.

*The "Force Gage" of many test standards.

HUNTER Springs in Springs
HUNTER SPRING COMPANY
14 Spring Avenue, Lansdale, Pennsylvania

For more details circle NED-818 B9 on enclosed inquiry slip

ACE for EXTRUDED PLASTIC PARTS fast . . . at low cost



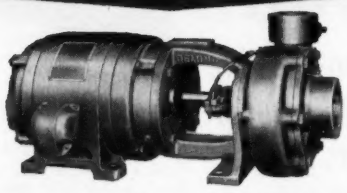
RODS • TUBES • SHAPES
in all colors . . . in your choice of
PLEXIGLAS • LUCITE • ETHYLCELLULOSE
POLYETHYLENE • ACETATE • BUTYRATE
in stock . . . or quickly made to your specifications.

Write, wire, phone for Bulletin E, samples and prices . . . or send specifications, blueprints, for immediate quotation.

ACE PLASTIC COMPANY
91-28 Van Wyck Expwy., Jamaica 35, N. Y. JAmaica 3-5500

For more details circle NED-819 B9 on enclosed inquiry slip

DEMING
"MOTOR-MOUNT" CENTRIFUGAL PUMPS



"Motor-Mount" Centrifugal Pumps . . . ranging from 1½" to 5" discharge . . . capacities to 1200 gallons per minute. From 1 to 30 horsepower. Deming's complete line of pumps for industrial requirements includes:

- Vertical Turbine Pumps
- Multi-Stage High Pressure Vertical Centrifugal Pumps
- End-Suction Centrifugal Pumps
- Vertical Sump Pumps

For information and detailed specifications, contact your qualified Deming distributor or write:

THE DEMING COMPANY
520 Broadway • Salem, Ohio

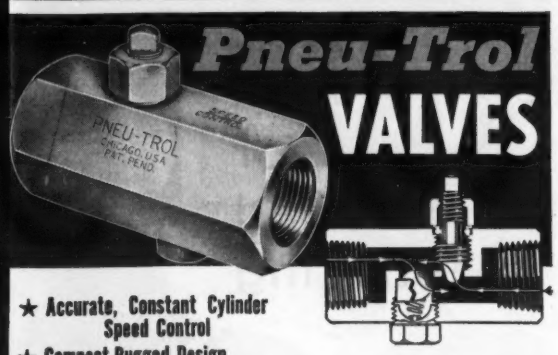
For more details circle NED-820 B9 on enclosed inquiry slip

NEW GRATING CATALOG

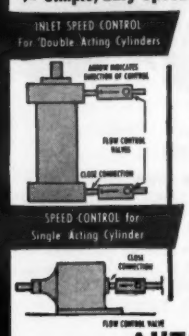
Send for Your FREE Copy

Write Dep't NE
KERRIGAN IRON WORKS, Inc.
P.O. Box 479 — Nashville, Tennessee

For more details circle NED-821 B9 on enclosed inquiry slip



★ Accurate, Constant Cylinder Speed Control
★ Compact Rugged Design
★ Simple, Easy Speed Selection ★ For Air, Oil or Water Applications



Pneu-Trol Speed Control Valves, are widely used in hundreds of control applications because they combine in a short, compact body, a tapered fine thread needle for extremely accurate air or oil flow control and a floating retro ball check, which permits full flow in the opposite direction. Retro ball floats in most sensitive position to its seat, requiring only a slight differential pressure to fully open or close it.

Needle design permits maximum flow capacity in the controlled direction. Metal to metal needle and ball seats insure long trouble-free service. Simple, practical "O" gland structure eliminates troublesome leaking. Valve bodies machined from hex brass or aluminum for 2000 psi working pressures; steel and stainless steel for 5000 psi. Made in 5 female pipe sizes—⅛" to ¾". ATTRACTIVE PRICES . . . IMMEDIATE DELIVERY.

Write for illustrated circular and prices.

AUTO-PONENTS,® Inc.
Manufacturer of Pneu-Trol Valves
2929 GRANT STREET • BELLWOOD (CHICAGO SUBURB) ILLINOIS

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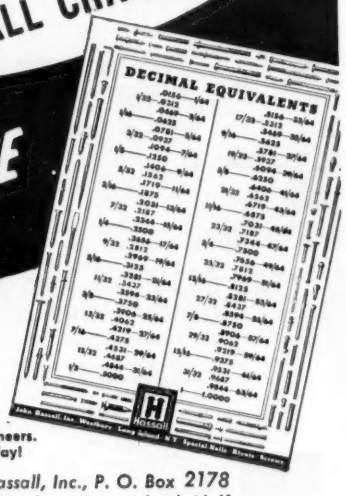
Hassall

DECIMAL EQUIVALENT WALL CHART



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- 4-Place Carry
- Extremely Legible
- Large 16" x 23" Wall Size

Ideal for Designers and Engineers.
Write for your FREE copy today!

MANUFACTURERS SINCE 1850

John Hassall, Inc., P. O. Box 2178
Westbury, Long Island, N. Y.

Hassall

NAILS, RIVETS, SCREWS AND OTHER COLD-HEADED FASTENERS AND SPECIALTIES

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HAMILTON CASTERS
FOR
Every Industrial Use!

The Hamilton caster line is extensive and exceptionally complete! Hamilton manufactures hundreds of styles and sizes, including swivel and rigid casters of forged steel, plate steel, cast steel, pressed steel and semi-steel. Single and double-wheel models. Wide range of capacities—up to 2,500 lbs. per caster.

Wheels available include steel, semi-steel, molded-on rubber-tired wheels, renewable rubber tires, full pneumatics, semi-pneumatics, molded plastic and composition rubber wheels. If you use industrial casters—whatever the application, whatever the quantity—get a quotation from Hamilton. Write today and tell us your requirements.

SEND FOR YOUR COPY OF THE HAMILTON CASTER & WHEEL CATALOG

Hamilton
CASTER & MFG. COMPANY
1761 Dixie Highway, Hamilton, Ohio

▲ For more details circle NED-824 B9 on enclosed inquiry slip ▲

New Processes & Materials

LAPPING COMPOUND
for carbide dies and plastic molds

Ready - to - use Tetrabor compound for lapping carbide dies and tools and polishing plastic molds consists of special oils and boron carbide. Closely resembling diamonds in hardness and specific weight, the material has a pressure resistance equivalent to a diamond. Paste is available in 100-gram tubes in grits from 100 to 1200. Sample kits containing 5-gram samples of 12 different grits are offered for $15.50. Made by **Titan Tool Supply Co.**, 1419 Hertel Ave., Buffalo 16, N. Y.

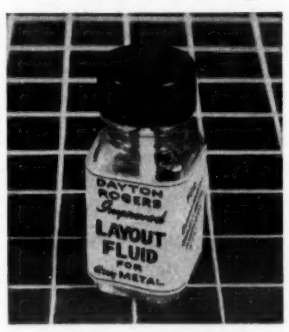
▲ For more details circle NED-825 B9 on enclosed inquiry slip ▲

ADHESIVE TAPE
withstands heat, accepts markings

Remaining fresh, clean, crisp, and legible after prolonged exposure to temperatures in range of −70 to 550° F, Time Hi-Temp tape is self-adhesive. It is designed for marking or labeling objects subjected to oxidation, aging, weathering, or exposure to acids or alkalies. Made of heat-resistant fiber and impregnated on the reverse side with a heatproof adhesive, tape can be cut to label size with scissors. It will take pencil, ink, or ball-point markings and will adhere to practically any dry surface. It is available in 300-in. rolls of five widths ranging from ½ to 2 in. It can be supplied imprinted with practically any desired pattern or wording. Made by **Professional Tape Co.**, 355 Burlington Rd., Riverside, Ill.

▲ For more details circle NED-826 B9 on enclosed inquiry slip ▲

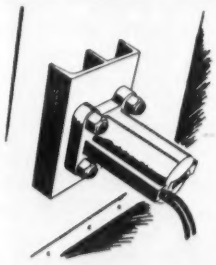
LAYOUT FLUID
dries instantly on any metal



Layout work on brass, aluminum, stainless steel, tin, copper, and other metals can be performed with this improved layout fluid for tool, die, and machine work. It is offered in eight colors and can also be used for identification and coding of bar stock, sheet, strip, and other stockroom material. Purple fluid can be used in layout work without polishing the metal. White is best used on cast iron and other cast metals when a pencil or steel scriber is employed. Fluid is offered in 8 oz, pint, quart, gallon, and 55-gal containers. Made by **Dayton Rogers Mfg. Co.**, 2824 13th Ave. S., Minneapolis 7, Minn.

▲ For more details circle NED-827 B9 on enclosed inquiry slip ▲

Shake Loose those bin problems with a CLEVELAND VIBRATOR



Maintain a regulated flow from your bins. Cleveland Vibrators eliminate plugging and jamming. Low in cost and easy to install, there is no bin damage and no wasted man hours.

Write today for literature on air and electrically operated vibrators.

Bin Stuck Lately?

THE CLEVELAND VIBRATOR CO.
Dept. K2-2744 Clinton Ave. • Cleveland 13, Ohio

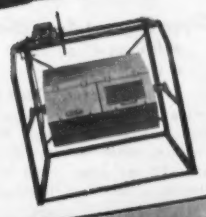
See our advertisement in the Chemical Engineering Catalog

▲ For more details circle NED-828 B9 on enclosed inquiry slip ▲

H. W. Kramer
YOUR KEY TO BETTER FINISHING...

BUFFING LATHE
1 to 10 H.P. Ball Bearing V-Belt Drive. Pre-determined speed set at factory or to your specifications. Buffing wheels and compounds available for every industry . . . Special compounds recommended for Special applications.

SINGLE BARREL TUMBLER
Size: 30" x 36" or engineered to your specifications. Barrels lined with kiln-dried and glued maple. Child's play to operate. Economical on space as motors are individually mounted overhead—double decked or single. Tumbling supplies available also.



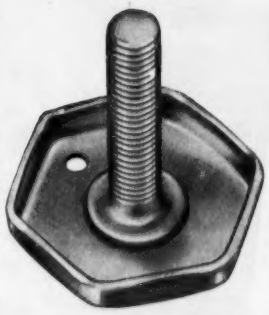
Write Dept. 12 for Detailed Information

H. W. KRAMER CO.
120-30 JAMAICA AVENUE
RICHMOND HILL 18, N. Y.

▲ For more details circle NED-829 B9 on enclosed inquiry slip ▲

OHIO ADJUSTING SCREWS

FB ADJUSTABLE FEET
WITH NON-MARKING GRAY PAD
A handsome, sturdy part that provides suction to hold equipment in place, absorb vibration, prevent marring of floors and improve product appearance.
Thread sizes 5/16-18 to ½-13



FT ADJUSTABLE SCREWS
Large hex head gives broad cupped base for easy hand adjustment. Used extensively on appliances as adjustable feet and as hand adjusting screws.
Thread sizes ¼-20 to ½-13

OHIO ADJUSTING SCREWS

OVER 50 YEARS OF BETTER FASTENING
Samples and information available upon request
THE OHIO NUT & BOLT CO.
14 First Avenue • Berea, Ohio

▲ For more details circle NED-830 B9 on enclosed inquiry slip ▲

TIME-SAVING • MONEY-SAVING

STANDARD BROACHES from local stocks

CUT A KEYWAY IN ONE MINUTE
In one minute and for as little as one cent you can cut a keyway with the Minute Man Keyway Broach Kit. For keyways from 1/16" to 1" in any bore from ¼" to 3".

FINISH HOLES TO EXACT SIZE IN ONE PASS

Minute Man
SQUARE BROACHES — ⅛" to ¾" holes
HEXAGON BROACHES — ⅛" to ¾" holes
ROUND BROACHES — ¼" to 1" holes

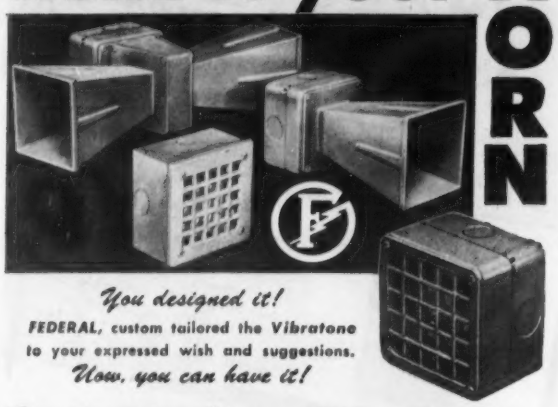
SEND FOR CATALOG AND PRICE LIST
The duMont Corp.
Greenfield, Mass.
MAIL FREE BROACH CATALOG AND PRICE LIST D describing Square Broaches, Hexagon Broaches, Production Type Keyway Broaches and Keyway Broach Kits to

Name.....
Company.....
Address.....

duMont

▲ For more details circle NED-831 B9 on enclosed inquiry slip ▲

HERE is your HORN



You designed it!
FEDERAL, custom tailored the Vibratone to your expressed wish and suggestions.
Now, you can have it!

Here is your horn that --
- fits any 4" sq. outlet box
- is self tuning
- has full-range volume control
- installs almost instantly
- is extremely compact
- has attractive appearance
- is durable, trouble-free

It's a new, modular design. Add simple accessories for flush mounting, or a projector type. Various wiring devices permit semi-flush, surface, concealed conduit, or weatherproof installations.
SPECIFY the new #350 Vibratone horn to your electrician, contractor or architect. It simplifies their problems, too.

Priced competitively! Write today

FEDERAL SIGN and SIGNAL Corporation 8711 S. State St., Chicago 19, Ill.

▲ For more details circle NED-835 B9 on enclosed inquiry slip ▲

FREE NEW-16 PAGE CATALOG
WRITE FOR YOUR COPY TODAY

JIG AND FIXTURE COMPONENTS
LATCH BOLTS
CAST IRON HAND KNOBS
ALUMINUM HAND KNOBS
QUARTER TURN SCREWS
SHOULDER SCREWS
JIG FEET (3 TYPES)
SPHERICAL WASHERS
FIXTURE KEYS
KNURLED HEAD SCREWS
TOGGLE SHOE CLAMPS & V-PADS

HOLD DOWN AND CLAMPING TOOLS
T-NUT & STUD SETS
STEP BLOCK & CLAMP SETS
FLANGED NUTS
CUT THREAD STUDS
TEE NUTS
COUPLING NUTS
ADJUSTABLE STEP BLOCKS
STRAP CLAMPS (PLAIN & STEP TYPE)

CATALOG INCLUDES TRACING TEMPLATES

Northwestern
127 HOLLIER AVE., DAYTON 3, OHIO

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We do have one-layer Calsilite insulation for high temperature lines and equipment. Illustrated below is a two-layer application used in special installations.

RUBEROID Calsilite

Modern calcium silicate insulation for use on today's high temperature pipes and vessels. Available in various thicknesses of pipe coverings and blocks.

- Light weight, easy to cut and apply
- Insoluble in water, normal acids and alkalis
- Absorbs moisture without disintegrating
- Constant co-efficient of conductivity

For complete details, write:

The RUBEROID Co.
INDUSTRIAL PRODUCTS DIVISION
500 Fifth Ave., N. Y. 36, N. Y.
PIONEERS IN CALCIUM SILICATE INSULATION

▲ For more details circle NED-837 B9 on enclosed inquiry slip ▲

New Literature & Catalogs

Packaged Water Chillers

Acme Industries, Inc.—Three catalogs No. 534, 535, and 536 have 8 pages each and they deal with various models of packaged water chillers with capacities of 20 to 125 tons, 20 to 60 tons, and 3 to 30 tons, respectively. Complete specifications are given on all sizes of these packaged units.

▲ For more details circle NED-838 B9 on enclosed inquiry slip ▲

Bore & Finishing Tools

Muskegon Tool Industries, Inc.—Designed for fast, easy reading and for quick reference, 18-page catalog entitled "Inner Diameter Tools" is descriptive of rough and finish boring and reaming tools. Typical internal machining operations are depicted with three-dimensional type drawings. Features of tools are explained.

▲ For more details circle NED-839 B9 on enclosed inquiry slip ▲

Bar & Tube Machinery

Blaw-Knox Co., Foundry & Mill Machinery Div.—Bar and tube machinery described in 18-page Bulletin 2533 includes billet peeling, billet chipping, centerless tubing, bar and tube straightening, stretch straightening, wire straightening and cutting, and roll grinding equipment. Each type is described and pictured.

▲ For more details circle NED-840 B9 on enclosed inquiry slip ▲

Flexible Shaft Machines

Stow Mfg. Co.—Catalog No. 59 contains complete performance and application data on multiple and single speed flexible shaft machines and attachments for grinding, sanding, polishing, buffing, wire brushing, and drilling wood or steel. Truck, pedestal, bench, and suspension mounting models are described. Also covered are standard flexible shaft tools, power drive flexible shafts, and small shafts.

▲ For more details circle NED-841 B9 on enclosed inquiry slip ▲

Precision Fine-Pitch Gears

Juall Gear Co.—Facilities of this company for producing fine-pitch precision gears are detailed in 4-page bulletin. Company is equipped to blank and cut gears, develop gear trains, and perform subassembly operations to customers' specifications.

▲ For more details circle NED-842 B9 on enclosed inquiry slip ▲

Hydraulic Power Tools

H. K. Porter Co., W-S Fittings Works—Catalog A-5-58 contains full information on line of hydraulic power tools which include independent pump hydraulic jacks, single and double plunger hand pumps, and double-acting air engine pumps. Tools are designed for industrial use in maintenance, construction, erection, testing, and many other fields.

▲ For more details circle NED-843 B9 on enclosed inquiry slip ▲

Teflon from Stock

Halogen Insulator & Seal Corp.—28-page Teflon stock Catalog and Machining Handbook No. C-1 list prices of 1087 sizes of Teflon tubing and rod in 3/16 to 18-in. diameters. Also shown are machining methods, speed, feeds, and tool design for fabricating this material. How to make envelope gaskets, O-rings, and other parts is explained.

▲ For more details circle NED-844 B9 on enclosed inquiry slip ▲

Production Bending Techniques

Pedrick Tool & Machine Co.—In addition to giving full details of compression process production bending machines and accessories, Bulletin No. 58 also offers guidance on general bending theory and practice. This 8-page booklet describes machines capable of handling up to 7-in. diameter steel pipe. Economic factors to be considered in selecting a specific model are covered.

▲ For more details circle NED-845 B9 on enclosed inquiry slip ▲

Servo System Components

Oilgear Co.—Bulletins 36100, 36200, 36300, and 36400 are descriptive of a new line of electrohydraulic servo system components. Technical and application data are given on servo valves, power amplifiers, preset units, and amplifier and control panels.

▲ For more details circle NED-846 B9 on enclosed inquiry slip ▲

Diamond Dressing Tools

EDCO Tool Co.—Complicated wheel dressing problems are handled by line of diamond dressing tools described in Catalog 1258. Available from stock are Single Point, Faceset, Edgeset, Layerset, Lineset, Sliverset, Sidemount, and Thread Grinding dressers. Special diamond tools can be produced in three to five days.

▲ For more details circle NED-847 B9 on enclosed inquiry slip ▲

electric clutch for no-load starting

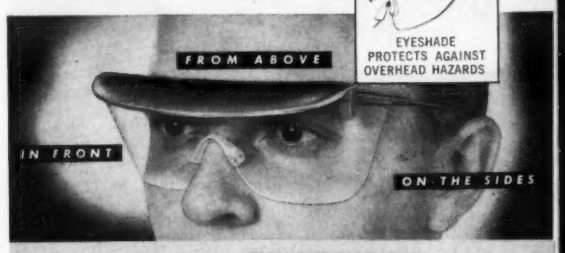
reduces horsepower requirements

Smaller motors and starters can be used if you equip your machine drives with Warner's new Electro-®Sheave. But, the important advantages are: automatic clutching, faster cycling, and stepless torque modulation. You can install a complete, new electrical control system at a "packaged price." The Electro-Sheave combination clutch and pulley is a pre-engineered drive that mounts *in minutes* to any standard NEMA motor shaft. Write for Catalog No. P52.

WARNER Warner Electric Brake & Clutch Co.
Beloit, Wisconsin

▲ For more details circle NED-848 B9 on enclosed inquiry slip ▲

THIS IS THE NEW 3-D IN EYE SAFETY!



THE USSSCO EYESHADE SPEC
New Series 26 All-Plastic SAF-I-SPEC®

- Eyeshade-Brow Bar protects against overhead glare, falling particles and splashes, indoors or outdoors.
- One-piece safety lens with individual base curve for each eye.
- Cable temples hold brow bar snugly against forehead.
- One size fits all, men and women.
- Lightweight, comfortable. Modern styling. Frames in attractive silver gray.
- Clear or green lens, with or without matching plastic wraparound side shields.

USSSCO Symbol of highest quality and assurance that product meets all ASA Code and Federal Specifications.

UNITED STATES SAFETY SERVICE CO.
DIV. E-2 1535 WALNUT ST., KANSAS CITY, MO.
Canada: Parmelee, Ltd., Toronto & Montreal

▲ For more details circle NED-849 B9 on enclosed inquiry slip ▲

UNLIMITED ADAPTABILITY with STANDARD models

For SHAFT MOUNTING or BASE MOUNTED
— horizontal or vertical
— on shaft, or on floor, walls, or ceiling

BOSTON Gear OPTIMOUNT TRADEMARK

HELICAL GEARED
REDUCTORS • RATIOMOTORS
AND FLANGED REDUCTORS
From Stock

1/6 to 15 HP drives 66 models
SINGLE or DOUBLE REDUCTION

CALL YOUR BOSTON Gear DISTRIBUTOR
Ask For Catalog OP-1

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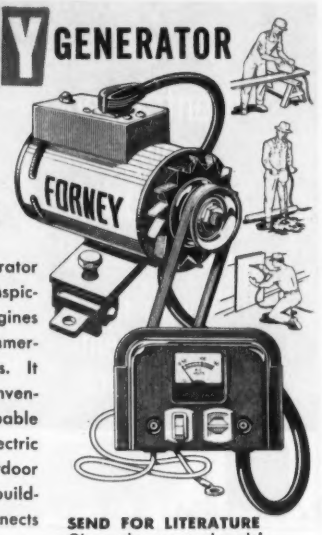
FORNEY GENERATOR

...GIVES A.C. MOBILITY TO POWER TOOLS



This 2,000 watt A.C. generator attaches quickly and inconspicuously to battery-start engines such as cars, tractors, commercial and industrial trucks. It frees workmen from conventional power lines, is capable of running four ½-inch electric drills at once. Useful to outdoor sign painters, repairmen, builders and many more. Disconnects from engine when not in use. Price, complete with mounting kit, control panel and service outlet **$137.00**

SEND FOR LITERATURE
Give make, year and model of vehicle when making inquiry or ordering. A nearby Forney distributor can give you a quick demonstration in most areas.

Forney INDUSTRIES
1816 LaPorte Avenue • Fort Collins, Colorado

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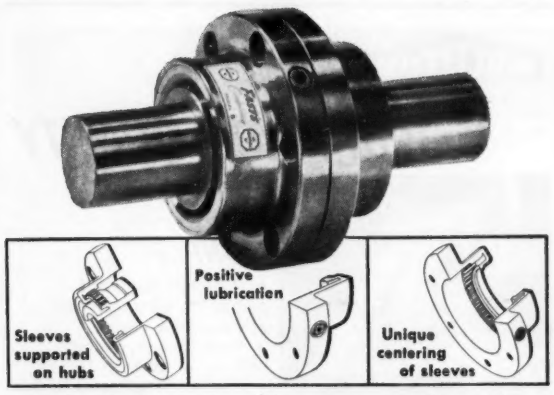

Fast's Model B Coupling reduces downtime and upkeep for light-to-medium drives!

Now you can profit from the durability and economy of famous Fast's couplings in a smaller and lower-cost version —available in 5 sizes for shafts ½" to 3⅛" in diameter.

The Model B coupling gives you the same features that have made Fast's the world's leading coupling for over 35 years. You get the same trouble-free performance, longer service life and lower maintenance costs. You also get prompt delivery because stocks are on hand to meet practically every need. Free engineering service is also available.

Write today for more details to KOPPERS COMPANY, INC., Fast's Coupling Dept., 5502 Scott Street, Baltimore 3, Md.

KOPPERS — THE ORIGINAL **FAST'S Couplings**
Engineered Products Sold with Service

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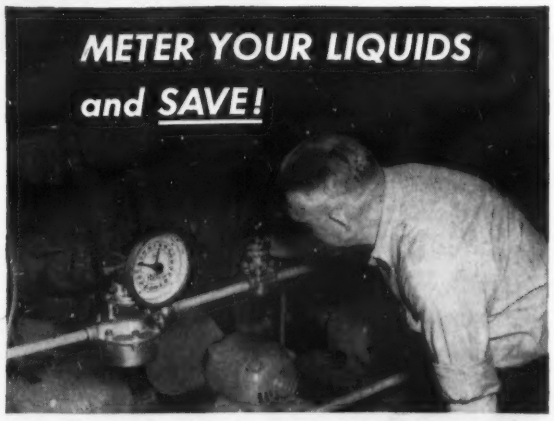


CONTROL COSTS—CONTROL QUALITY

Wherever liquids are stored, mixed or consumed, you will be ahead to measure with Rockwell industrial meters. Then you'll control your costs, control your processes, control your end product quality.

There's a Rockwell meter to measure most any liquid—oils, chemicals, paints, liquors, solvents, etc.—even corrosive fluids. Write for bulletin OG-400. Rockwell Mfg. Co., Pittsburgh 8, Pa.

INDUSTRIAL METERS
another fine product by
ROCKWELL

Rockwell ER Meter with large reset register

▲ For more details circle NED-853 B9 on enclosed inquiry slip ▲

New Processes & Materials

SYNTHETIC CHAMOIS
unharmed by grease, oil, solvents

Made chiefly of oil and solventproof nitrile rubber, Chamie - Tex synthetic chamois can be used in gasoline, kerosine, and harsh industrial solvents. It is not harmed by grease or oil and can be used for cleaning machinery and machine parts. Rinsing in a solvent after use removes all grime, or it can be washed with any soap or detergent. It remains soft, whether wet or dry, and will not mildew, crack, or tear. Use can also be on glass, woodwork, desks, office furnishings, and walls. Each cloth is 18 x 21 in. and sells for $1.29. Made in West Germany, it is available from **Milwaukee Dustless Brush Co.**, 530 N. 22nd St., Milwaukee 3, Wis.

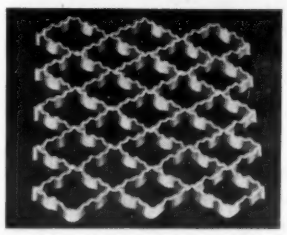
▲ For more details circle NED-854 B9 on enclosed inquiry slip ▲

MICROPROJECTION PAPERS
for various reproduction processes

Five microprojection papers for use as the intermediates for a variety of reproduction processes simplify the processing of enlarged reference copies and positive intermediates for diazo printing. Papers are on 55, 85, and 105-gram, vellum, and waterproof bases and are suited for engineering drawings, records of various types, and correspondence. Nineteen cut sheet sizes from 8½ x 11 in. to 37 x 49 in. and rolls from 8½ in. wide by 60 ft long to 42 in. by 150 ft are available. For wet process (darkroom) developing, the papers can be used with all types of microfilm projectors, using film mounted in aperture cards, in strips, jackets, or on roll film. They will make a positive from a negative in all sizes to 105 mm. Made by **Anken Chemical & Film Corp.**, 3 Hicks Ave., Newton, N. J.

▲ For more details circle NED-855 B9 on enclosed inquiry slip ▲

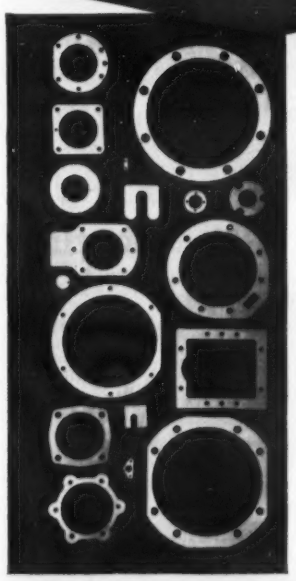
NONSKID GRATING
9-ft lengths, varied widths offered



Nonskid in all directions, Protecto grating can be used for stair treads, platforms, and safety grille products. Tests show that it prevents most skidding, even when heavily coated with grease and set on an angle. Lightweight product comes in 9-ft lengths and a selection of widths. Made by **Bustin Steel Products, Inc.**, Randolph Township, Dover, N. J.

▲ For more details circle NED-856 B9 on enclosed inquiry slip ▲

LOOKING FOR SAVINGS on GASKETS, SHIMS, WASHERS?



Over more than 50 years, Chicago-Wilcox has accumulated a wide variety of dies which enable us to supply many of your gasket, shim and washer needs **without a die charge.** Whether you need just a few items or large quantities, this can save you money and speed delivery. Available in metallic, nonmetallic and plastics to meet your production requirements.

Write for Catalog and prices.

Ask about WIL-PAK PLASTIC SHIM STOCK that identifies thickness both by color and gauge number. Write for Bulletin No. 570.

CHICAGO-WILCOX MFG. CO.
7713 South Avalon Avenue
Chicago 19, Illinois

▲ For more details circle NED-857 B9 on enclosed inquiry slip ▲

USG® BRUSHES

The solution to many major or minor brush problems can be solved with United States Graphite Company's USG Brushes. The shunt connections are permanent. Sizes are accurate for each application from fractional horsepower to locomotive diesel generator. Grades include carbon, carbon-graphite, electrographilitic, graphite, metal-graphite and silver graphite.

There is helpful, useful data in the complete but CONCISE USG Brush catalog B-56 and the USG grade list. Write for your copies today.

B-243-1
THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION • SAGINAW 10, MICHIGAN

STOP that NOISE NOISE NOISE NOISE NOISE NOISE

—from the discharge to atmosphere of air, steam and other gases, with a Burgess-Manning Snubber. They are available with such plus features as: spark arresting; air cleaning; heat recovery; and surge control.

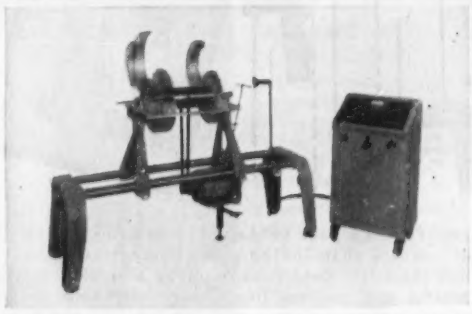
Send us an outline of your problem for recommendations and literature.

Sound Engineering — **BURGESS-MANNING COMPANY**
Industrial Silencer Division
9227 Soverign Row, Dallas 35, Texas
Libertyville, Illinois

▲ For more details circle NED-858 B9 on enclosed inquiry slip ▲

Balances Rotors from 2 to 600 lbs.

Turbines, Impellers. Aircraft accessories, Armatures, Pulleys, Drums, etc., may be quickly and accurately balanced with the new Micro Balancing Model SU-7 Dynamic Balancer.



Here in one simple, most versatile, relatively low-cost machine, is the answer to 95% of balancing problems encountered in industry!

Occupies minimum space . . . needs minimum fixturization . . . requires no foundations or hold downs . . . easy to operate and maintain . . . handles large swing diameters . . . meets Mil/Spec B-25511 (USAF) and JIC Standards.

Write for Bulletin SU-7 for details.

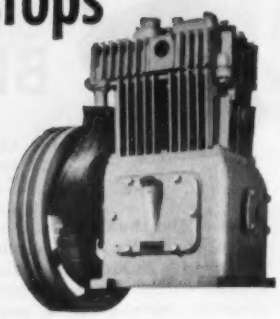
MICRO BALANCING, INC.
Herrick's Road • Garden City Park, L. I., New York • Pioneer 6-0851

▲ For more details circle NED-859 B9 on enclosed inquiry slip ▲

easy starts smooth stops

PROVIDE LONGER SERVICE FROM

Quincy COMPRESSORS



Quincy's automatic loadless starting is the simplest yet — a foolproof hydraulic system tied right in with Safe-Q-Lube —the pressure lubrication that also unloads compressor if oil pressure fails for *any* reason. Loadless starting prolongs belt and motor life — adds to Quincy's over-all economy. Models to 90 C.F.M. — mountings for every need.

SEND FOR CATALOG

QUINCY COMPRESSOR CO., Dept. NED-259, Quincy, Illinois

▲ For more details circle NED-860 B9 on enclosed inquiry slip ▲

NOW! a "Valve Finder"

HANNIFIN offers you a 12-page guide to air valve selection

Now, you can choose the right air valve for any application ... quickly ... confidently. Just follow the three simple steps outlined in this new "Valve Finder".

With this new booklet, you are your own valve expert. It makes it easy for you to pick the one valve that best suits your purpose from the complete valve line which Hannifin offers.

Write for this new "Valve Finder". It's free.

HANNIFIN COMPANY

527 South Wolf Road • Des Plaines, Illinois

A DIVISION OF PARKER-HANNIFIN CORPORATION

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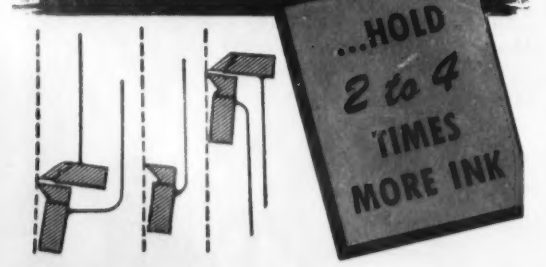
BETA CHART PENS



Beta Fountain Pens hold two to four times the ink of ordinary chart inking pens. Regardless of the line thickness Beta Pens produce a smooth unbroken and uniform line. Pens shown are approximately actual size and can be arranged to reduce time interval between static and differential lines to only a few minutes. Beta Pens are especially suitable for seven day records. Price $1.20 (lower prices in quantities).

Send for bulletin No. 110-R1

AMERICAN RECORDING CHART CO.

7142 E. Condor St., Los Angeles 22, Calif.

Available for Early Delivery

▲ For more details circle NED-862 B9 on enclosed inquiry slip ▲

New Literature & Catalogs

Vinyl-Metal Laminate

O'Sullivan Rubber Corp.—Physical and chemical properties of Sullvyne-clad vinyl-metal laminate are given in illustrated folder. The vinyl plastic sheeting is adhesive-bonded to steel, aluminum, and magnesium. Colors and textures are shown and recommended uses are covered.

▲ For more details circle NED-863 B9 on enclosed inquiry slip ▲

Carbide Cutters

W. F. Meyers Co.—Special carbide-tipped and solid carbide cutters for slotting, slitting, cutting, or forming such materials as cast iron, plastics, hard rubber, Celluloid, ivory, copper, aluminum, and paper tubing are described in a new catalog. Tipped cutters can be as thin as 0.030 in. and solid carbide cutters even thinner.

▲ For more details circle NED-864 B9 on enclosed inquiry slip ▲

Aluminum Forging Facilities

Aluminum Co. of America—36-page brochure 22-11184 discusses in three well-illustrated sections the equipment, products, and services of Alcoa plants engaged in producing aluminum and magnesium forgings. Facilities range from a 50,000-ton hydraulic press to forging hammers, upsetters, a ring roller, and one of the world's largest die shops.

▲ For more details circle NED-865 B9 on enclosed inquiry slip ▲

Programmable Power Packs

Electronic Measurements Co.—Engineering data and descriptions of typical applications of Regatron programmable power packs are found in illustrated 8-page Bulletin 765A. Entitled "A New Approach to Practical Control," it includes specifications of new models.

▲ For more details circle NED-866 B9 on enclosed inquiry slip ▲

Power Lubrication Systems

Lincoln Engineering Co.—Automatic centralized systems, and semiautomatic and manual methods of lubricating machines are covered in 32-page Catalog 81. Air couplers, hose, filters, air gages, valves, pressure switches, and other equipment necessary to automate or modernize a lubrication program are catalogued. Equipment can be applied to any kind of machine that has rotating, sliding, or reciprocating bearing surfaces.

▲ For more details circle NED-867 B9 on enclosed inquiry slip ▲

Over 100 Air Motors

Ingersoll-Rand Co.—Air motors with a power range from 0.3 to 24 hp and speeds from 50 to 2580 rpm at rated horsepower are among the over 100 models described in 16-page illustrated Bulletin 5072A. Specifications and dimensional drawings of both Multi-Vane and piston motors are included. Technical data are given.

▲ For more details circle NED-868 B9 on enclosed inquiry slip ▲

For Faster, Better Soldering

Use Rubyfluid

RUBYFLUID'S better soldering flux—liquid or paste—assures you of strong, neat unions, quickly and easily. RUBYFLUID'S fast acting formula wets out freely . . . is free from objectionable and harmful fumes . . . is economical to use.

For stainless steel soldering, use RUBY'S Special Stainless Steel flux . . . designed specifically for this application . . . requires no extra heat, no extra equipment, will not corrode or discolor metal.

RUBY CHEMICAL CO.

72 S. McDowell Street Columbus 8, Ohio

Rubyfluid

▲ For more details circle NED-869 B9 on enclosed inquiry slip ▲

Centralized power distribution at low cost with new shallow depth switchboards

Only 14 inches deep and rigidly constructed—these switchboards take a variety of interchangeable control and distribution units of modular dimension... consolidates motor starters, fusible switches, and circuit breakers into one installation...requires less floor space...reduces installation and maintenance costs...provides greater flexibility in meeting future requirements. For details, write for Bulletin #3-310: Federal Pacific Electric Co., General Offices: Dept. 319, Newark 1, N. J.

A. TYPE AB CIRCUIT BREAKERS from 15 through 800 amps.

B. QMQB FUSIBLE SWITCH UNITS from 30 through 1200 amps.

C. MAGNETIC OR MANUAL MOTOR STARTERS in NEMA sizes 0 through 5.

FPE FEDERAL PACIFIC ELECTRIC COMPANY

The Best in Electrical Distribution and Control Equipment.

▲ For more details circle NED-870 B9 on enclosed inquiry slip ▲

MULTITON PALLET TRUCK *gives you*

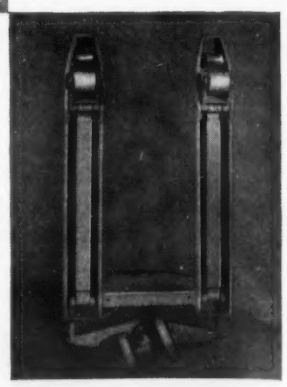
SUPERIOR QUALITY

UP FRONT

- Patented leakproof hydraulics with overload and overflow valves
- Hard-chrome plated pistons in honed cylinders
- Precision-machined oil lines—no pipes, no tubings, no packings
- Magnetic oil filter

DOWN UNDER

- Box-section type push rods
- Taper roller bearings on load rollers
- Torsion-proof hardened joints
- Effortless operation through pallet entry & exit rollers



OVER-ALL

- Hand-operated 4½" lift in only 3 strokes
- Constant lowering speed regardless of load
- All valves easily accessible from outside
- Low tapered forks for maximum clearance

Full 6 months warranty

MULTITON FULLY HYDRAULIC

PALLET TRUCK

Still only $358

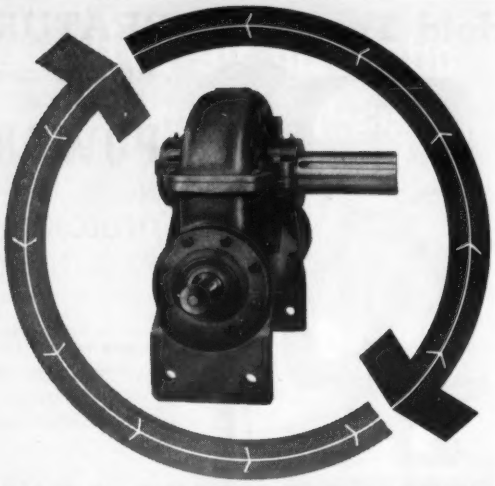
Capacities: 2200, 2500, 4400 lbs. Skid adaptors and/or brake optional. Available in all standard fork lengths with full variety of wheels to fit every requirement. Write for full information.

MULTITON PRODUCTS DIVISION

Stokvis Edera & Co., Inc.

Dept. No. NED-2 18 Secatoag Ave., Port Washington, N. Y.

▲ For more details circle NED-871 B9 on enclosed inquiry slip ▲



TULSA SPEED REDUCERS

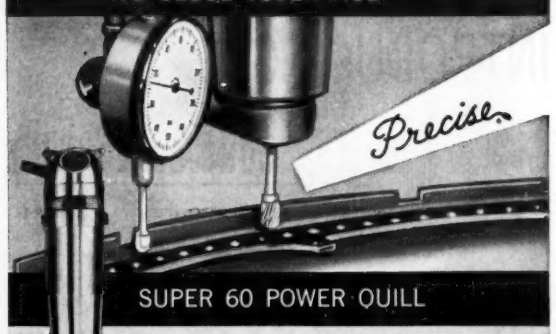
• Low Cost • Compact • Heavy Duty • Worm Gear

Economize on speed reduction costs with Tulsa Speed Reducers. For intermittent heavy duty operation at slow speeds, you can't beat Tulsa Speed Reducers for initial low cost, minimum maintenance and outstanding performance. A wide range of models is available with maximum output torques ranging from 875 to 26,000 pound-feet. Some models available with automatic worm brake. For complete information write for Bulletin No. SR-56.

TULSA WINCH
DIVISION OF VICKERS, INCORPORATED
TULSA OKLAHOMA

▲ For more details circle **NED-872 B9** on enclosed inquiry slip ▲

FOR PRECISION MACHINING
TO CLOSE TOLERANCE



SUPER 60 POWER QUILL

High speeds combined with high torque make PRECISE Super-Speed POWER QUILLS the finest tools for precision grinding, milling, and finishing. They can be quickly mounted—with PRECISE mounts—on standard and special machine tools to do the work of single-purpose machines costing many times more.

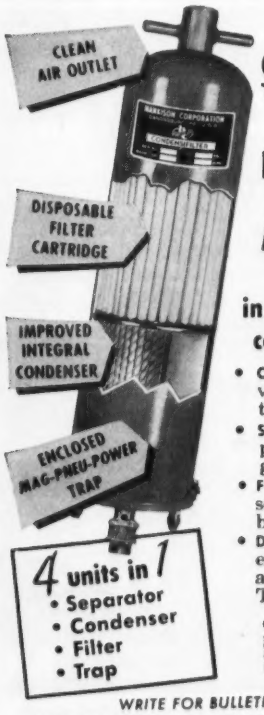
PRECISE Super 60 POWER QUILL provides spindle speeds up to 45000 rpm with a ½ hp motor and operates from ordinary 110v or 220v power supplies. Its rigid steel housing, precision spindle, and collet chuck permit work tolerances to within .0001 inch. Other models available from 7000 rpm to 45000 rpm with power ratings to 1½ hp. Send for complete catalog.

Precise

Power Quills Grinder Millers Milling Machines Accessories Cutting Tools Vapor-Lub Cooling Systems
Quality and Precision Since 1882

PRECISE PRODUCTS CORPORATION
3752 BLUE RIVER ROAD, RACINE, WISCONSIN, U.S.A.
BRANCH PLANT: PRECISE G.m.b.H., DUESSELDORF, GERMANY

▲ For more details circle **NED-873 B9** on enclosed inquiry slip ▲



HANKISON CONDENSIFILTERS

REDUCE *maintenance*
MAINTAIN *accuracy*
in pneumatic instruments, controls, and machinery

- **CONDENSE** oil and moisture vapors—for maximum protection of pneumatic systems
- **SEPARATE** entrained liquids—preventing corrosion and sluggish equipment
- **FILTER** contaminant solids—scale, rust, dirt, with disposable cartridge
- **DISCHARGE** all condensates and entrainments with built-in, automatic Mag-Pneu-Power Trap

Capacities: M-100T, 100 scfm at 100 psig; M-30T, 30 scfm at 100 psig. Both models of rugged construction, require only 1 hour per year servicing.

WRITE FOR BULLETIN 4158
HANKISON CORPORATION
College & Pike Canonsburg, Penna.

▲ For more details circle **NED-874 B9** on enclosed inquiry slip ▲

New Processes & Materials

DUCT SEALING TAPE
for heating, ventilating systems

Combination of cloth backing and a special adhesive enables Permacel 676 Silver duct sealing tape to provide an effective seal against air leaks in heating, ventilating, and air conditioning systems. The vinyl-coated, pressure-sensitive tape resists extreme temperature fluctuations, solvents, abrasion, and aging. Made by **Permacel**, New Brunswick, N. J.

▲ For more details circle **NED-875 B9** on enclosed inquiry slip ▲

ALUMINUM ETCH CLEANER
leaves surface free of scale

Improved Etchalume 14 aluminum etch cleaning compound has longer life than the original product and can be used over a wide range of concentrations and temperatures. The strongly alkaline material etches aluminum rapidly and uniformly without the formation of aluminum hydroxide scale on the work, tanks, or heating coils. Dissolved aluminum precipitates as a loose, flocculent powder. Product is used for cleaning and etching aluminum prior to plating, anodizing, bright dipping, welding, phosphating, and chromate conversion coating. Rapid etching properties also suit it for chemical deburring and etching of nameplates. Improved product is offered at no increase in price. Made by **Enthone, Inc.**, 442 Elm St., New Haven 2, Conn.

▲ For more details circle **NED-876 B9** on enclosed inquiry slip ▲

GRINDING DISCS
safety type for various uses

Solvent and waterproof Spitfire aluminum oxide grinding discs have reinforced edges and a built-in shape control which prevents limpness and disintegration due to excessive grit loss. Discs have a high margin of safety in snagging and hang-up operations. Their sharp, uniform cutting action makes full use of disc grinding surfaces. Special, Standard, and Heavy Duty models are offered for a wide range of grinding and finishing applications. Grit sizes from 16 to 180 are available in 6, 7, 8, and 9⅛-in. diameters with ½ and ⅞-in. arbor holes, plain or slotted. Made by **Abrasive Products, Inc.**, Pearl Street, South Braintree 85, Mass.

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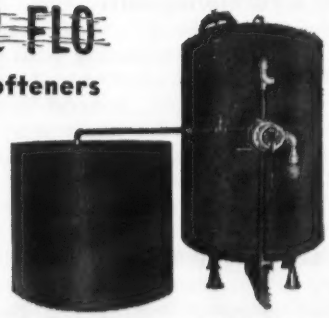
A mark of distinction on your plant equipment.. KISCO

Tomorrow's Engineering—TODAY

KISCO
SUPER FLO
Water Softeners

New design supplies large volume of flow rate with a smaller size softener



The new Kisco Super-Flo provides a non-restricted maximum flow of soft water, making it possible to obtain the same high capacity with a smaller size unit. Select the softening capacity to meet your requirements with a resulting tremendous saving in initial cost. Write for catalog.

KISCO BOILER & ENGINEERING CO.
2400 DE KALB STREET ST. LOUIS 4, MISSOURI

▲ For more details circle **NED-878 B9** on enclosed inquiry slip ▲

The 2-IN-1 MACHINE MOUNT

• FAST, SAFE AND SIMPLE INSTALLATION
• MAXIMUM VIBRATION CONTROL

Unisorb gives you a complete line of vibration control machine mounts for simplifying machine and equipment installation everywhere in your plant.

● Absorb up to 85% of transmitted vibration ● Eliminate bolts and lag screws, no floor damage ● Save from 30 to 75% in installation time ● Machines can be moved at any time ● Lowers noise level, improves worker morale ● Protects machines from vibration, preserves building

Try Unisorb on Special Trial Offer! Send us description of one machine you'd like to try on Unisorb. We'll send correct type and density. If not satisfied, return pads and we'll credit invoice. Available from leading Industrial Distributors; or write or call today.

UNISORB Division of the Felters Co.
224 South St., Boston 11, Mass.

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Lift Unbalanced Loads
FASTER...MORE SAFELY

CALDWELL Hoisting Equipment

ADJUST-A-LEG SLING

EQUALIZES . . . LOCKS UNDER LOAD

Saves valuable time . . . gives crane operator perfect control at all times. Lifts load level or at any desired angle. Balance point is easily located for level lifts. Sizes ¾ ton to 50 ton. All have 5 to 1 safety factor. Every shop needs Caldwell Slings. Investigate.

WRITE FOR BULLETIN J

THE CALDWELL COMPANY, INC.
1123 FOURTH AVE., ROCKFORD, ILL.

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CARBIDE **"THINSAWS"**

FOR FAST, PRECISION SAWING, SLOTTING or SLITTING and LONGER SAW LIFE

Gay-Lee Carbide "Thinsaws" maintain positive alignment for full-depth cutting without run-out. "Thinsaw" thickness as low as .030" with tolerance held to .0001". Sizes from 1¼" to 10" O.D.

Patented carbide tip design and circular seat mounting assure maximum brazing area, positive seating and greater holding strength – tips will not break loose.

For fast, precision sawing, slitting or slotting of cast-iron, non-ferrous, plastics, wood, etc., use Gay-Lee Carbide "Thinsaws". Any tooth form available. For application recommendations, send details of your problem.

Patented—Manufactured under license.

Note patented Gay-Lee carbide tip mounting. Circular seat assures maximum brazing area and holding strength.

GAY-LEE COMPANY
CLAWSON • MICHIGAN
CARBIDE SAW SPECIALISTS

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Stop slow, bumbling driving methods

GO MAGNETIC WITH Magna-tip®

SCREW DRIVING ACCESSORIES

You can speed assembly operations and stop inefficient fumbling with Magna (Permanently Magnetic) bit holders, finders and sockets. Fit all power screwdrivers to hold screws, bolts or nuts firmly for one-hand driving. Hundreds of plants are now using them profitably. Ask your power screwdriver salesman for details.

WRITE for manual on the complete line of Magna-tip bit holders, finders, sockets and hand screwdrivers. Dept. 81G4, Magna Driver Corp., 779 Washington St., Buffalo 3, N. Y.

▲ For more details circle **NED-886 B9** on enclosed inquiry slip ▲

PANDUX® THERMOMETERS CHECK *any* SURFACE TEMPERATURE!

Write for **FREE** *temperature conversion chart...C to F and F to C 0°K. to 5612°F.*

SPOT-CHECK® All Stainless Steel. Four ranges to 1000°F. With magnet **$4.00**

SURFACE Three Ranges, minus 50°F. to 370°F. Also in Centigrade. With magnet **$6.75**

MAXIMUM-MINIMUM All Stainless Steel. Four ranges to 1000°F. With magnet **$6.75**

HI-HEAT Two Built-In Magnets. 50°F. to 750°F. **$6.75**

MAXIMUM - MINIMUM RECORDING With replaceable Chart. Minus 50°F. to 250°F. **$19.50**

SURFACE PYROMETER 10" Surface Tip. Two ranges to 2300°F. Complete **$57.00**

OTHER PANDUX THERMOMETERS: Stainless Steel Stem Dial Type regular and with maximum-minimum hands; Glass Mercury Immersion Types for production and laboratory.

Order through your dealer or write factory for complete catalog ND-29
Phone GRanite 8-1134

PACIFIC TRANSDUCER CORP. 11836 W. Pico Blvd. Los Angeles 64, Calif.

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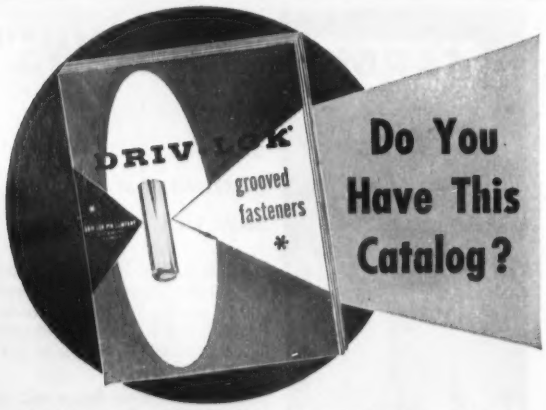
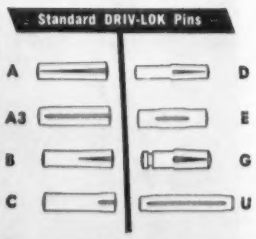


Do You Have This Catalog?

Contains Complete details on grooved pins and studs *YOURS FOR THE ASKING!*

Write for your copy of the DRIV-LOK catalog today. Contains factual data in concise, easy to use form. Illustrated with typical applications that may help solve a fastening problem for you. Sent without obligation, of course.



DRIV-LOK SALES CORPORATION
717 Park Avenue • Sycamore, Illinois

▲ For more details circle **NED-888 B9** on enclosed inquiry slip ▲

New Literature & Catalogs

High-Pressure Solenoid Valves

Waterman Engineering Co.—Well arranged information, including dimensions, is presented on high-pressure solenoid valves for hydraulic power systems in 12-page Catalog 2000. Two and three-way valves in both ac and dc models are covered. Most of the valves shown are rated 3000 psi, with port sizes from 1/4 to 3/4 in., both NPTF and SAE. Information enables designer to select the right valve in most cases.

▲ For more details circle **NED-889 B9** on enclosed inquiry slip ▲

Snap-On Pipe Insulation

Gustin-Bacon Mfg. Co.—Snap-On one-piece molded pipe insulation made of fine glass fibers is subject of 10-page Bulletin SO-9-58. Thermal conductivity and other technical factors of this material are presented. Sizing and application data are tabulated for easy reference. It is made in sizes for up to 36-in. pipe and for service at temperatures to 350° F.

▲ For more details circle **NED-890 B9** on enclosed inquiry slip ▲

Guide to Wiring Devices

Eagle Electric Mfg. Co.—Pocket-size guide to wiring devices covers three-wire U-devices, grounding units, interchanges, switches, receptacles, wall plates, switch locks, fuses, sockets, caps, connectors, and many other devices employed in all types of in-plant, machine, and other electrical wiring applications.

▲ For more details circle **NED-891 B9** on enclosed inquiry slip ▲

Products Made of Molded Fiber Glass

Molded Fiber Glass Cos. — Photos, sketches, and charts disclose both the products made and the properties of plastic reinforced fiber glass in 32-page catalog. Also described are engineering, design, and production facilities of this company for custom molding of fiber glass products for a wide range of applications ranging from boats and car bodies to housings and parts.

▲ For more details circle **NED-892 B9** on enclosed inquiry slip ▲

Self-Lubricating Bearings & Parts

This 72-page catalog on Graphex, Coprex, and Woodex oilless and self-lubricating bearings, bushings, and machine parts is a reference guide to sintered metal products. Properties, suggested uses, available sizes, and other information are given on the various powder metal compositions. Included is a bibliography of powder metallurgy. Prices and sizes of bearings and parts are included. Available only by writing on company letterhead to Wakefield Bearing Corp., 29 Foundry St., Wakefield, Mass.

▲ For more details circle **NED-893 B9** on enclosed inquiry slip ▲

Parts Marking Machines

Acromark Co.—Details of hand and power machines designed expressly for fast, efficient, and accurate marking, numbering, and stamping of metallic parts are given in 6-page illustrated Bulletin 111. Machines use standard marking type or dies.

▲ For more details circle **NED-894 B9** on enclosed inquiry slip ▲

Plastic Pipe & Fittings

Mueller Brass Co.—Rigid pipe and fittings made of unplasticized polyvinyl chloride and available in sizes from 1/2 to 3 in. are described in 12-page Bulletin S-1032. Physical properties, fabrication guidance, and specifications are given. Pipe is corrosion resistant, sanitary, long lasting, and strong.

▲ For more details circle **NED-895 B9** on enclosed inquiry slip ▲

Heating & Ventilating Units

American Air Filter Co.—Twelve sizes of Herman Nelson heating and ventilating units with capacities from 600 to 73,000 cfm are described in illustrated Bulletin 910. Coils normally mounted in the fan section are two-row steam or hot water types with large or small face area. Specifications and details on components and accessories are included.

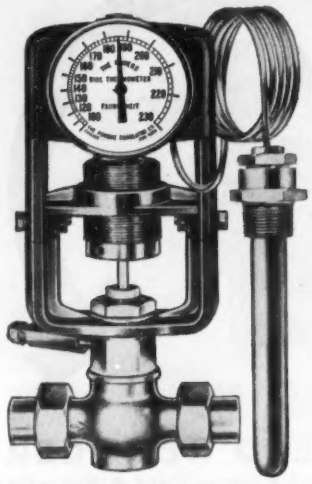
▲ For more details circle **NED-896 B9** on enclosed inquiry slip ▲

Magazine Publicity Guide

Serving as a publicity guide to 3450 business, trade, farm, and consumer magazines is Bacon's Publicity Checker, a 336-page, 6 3/4 x 9 3/4-in. book which codes each publication as to types of publicity release material it uses. Indices of market classifications and publication listings are included. New features include designation of magazines charging for cuts and identification of listings changed from previous issue. Price is $18. Bacon's Clipping Bureau, 14 E. Jackson Blvd., Chicago 4, Ill.

▲ For more details circle **NED-897 B9** on enclosed inquiry slip ▲

Hold That TEMPERATURE



Controls Flow of Steam, Water or Gas

at the *Right* point with a

POWERS No. 11 Self-Operating **INDICATING REGULATOR**

Simplest, Reliable Control made for processes, water heaters, heat exchangers, air compressors, etc.

BETTER CONTROL FEATURES

This versatile control has a big easy to read 4" dial thermometer. It accurately shows temperature at bulb. Better temperature control and less maintenance result from powerful bellows and minimum valve stem friction. Powers 590 — Long-Life Valve Packing and Valve Stem Lubricator with silicone grease aid easy movement of highly polished stainless steel valve stem. (c38r)

Write for Bulletin 329.

THE POWERS REGULATOR CO.
Dept. 259, Skokie 44, Ill.

Over 65 Years of Automatic Temperature and Humidity Control

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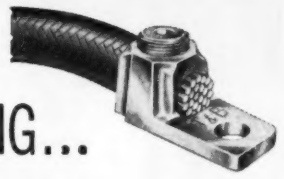

INTRODUCING...

the T&B ENGINEERED CONE-SCREW LUG!
for copper cable

A PERFECT WAY TO END THE JOB

This new series of connectors brings you greater ease and economy in terminating copper cable. The T&B *cone-screw lug* is a compact, one-piece connector, with extra wide cable range and exclusive non-tarnish, corrosion-proof finish. It's modern in appearance; modern in performance. Its positive wire-stop and tapered cone-screw make installation fast . . . and far more secure.

T&B *cone-screw lugs* are available to fit all popular conductor sizes, #14AWG to 500MCM. See your T&B distributor. He has the complete line in stock.

THE THOMAS & BETTS CO.
24 Butler Street, Elizabeth 1, N.J.
THOMAS & BETTS, LTD. Montreal, P. Q., Canada

EXTRA! Every standard package of T&B cone-screw lugs contains a free installing wrench . . . with plastic-cushioned handle.

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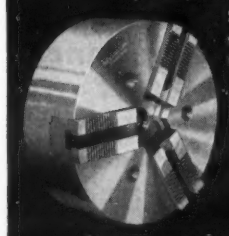
cut floor-to-floor time . . . assure accuracy . . . with SP

POWER CHUCKS and ROTATING CYLINDERS



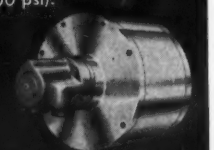
S-P POWER CHUCKS. Self-centering or compensating. American Standard or serrated. 2 or 3 jaws. Sizes, 6 to 18 in.

Famous S-P cam and lever design
- grips work tighter, resists jaw opening under load
- longer jaw travel, balanced for high rpm.
- flame hardened master jaw ways

installed as original equipment by leading manufacturers

S-P ROTATING CYLINDERS. Sizes; 3 to 16 in. bore (air), 3 to 8 in. bore (hydraulic, 500 psi).

Air and hydraulic
- weight-saving design, long stroke, compact inlet
- balanced for high rpm, American Standard mountings, finished adapters available



Representatives in principal cities. Phone or write for Catalog No. 112

SP *for speed and performance* THE S-P MANUFACTURING CORPORATION SOLON, OHIO

NON-ROTATING AIR AND HYDRAULIC CYLINDERS • ROTATING AIR AND HYDRAULIC CYLINDERS • POWER CHUCKS • COLLET AND DRILL PRESS CHUCKS • VALVES, ACCESSORIES
A BASSETT COMPANY • IN GREATER CLEVELAND • ESTABLISHED 1916

AA-7483

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ELLIOTT air magnetic tube expander drives

Particularly good for precision tube rolling in hazardous locations. Rolling stops automatically when preset torque levels are reached. Simple, compact, sturdy. Standard model handles most jobs. For higher torque requirements—the heavy-duty model, with choice of rolling speeds.

ELLIOTT Company
LAGONDA PLANT, Springfield, Ohio
Y9-4

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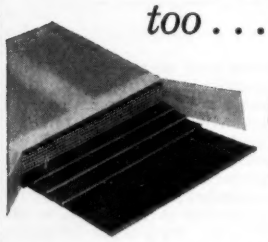
Feel it, *too . . .*



with machines on **ISOMODE® PADS**

It's so simple . . . so effective. Cut the size you need from standard sheet of Isomode Pad. Place under machine feet . . . hear and feel the difference! Long-life, resilient neoprene absorbs vibration . . . helps cut plant noise . . . saves wear on machines and floors alike. Box of ten 18" x 18" Isomode Pads is enough for 80 tons of machinery. Make a test . . . convince yourself. Write for details.
® *T.M. Reg. U.S. Pat. Off.*

MB manufacturing company
A DIVISION OF TEXTRON INC.
1066 State Street, New Haven 11, Conn.

For more details circle NED-902 B9 on enclosed inquiry slip

It's easy to cut costs with this hopper. Use it instead of a tote box for handling all kinds of wet or dry, hot or cold bulk materials. Pick it up with your lift truck . . . move it to its destination . . . flip the latch and the hopper automatically dumps its load, rights itself, locks itself. One man does the entire job in a fraction of the usual time. Roura Self-Dumping Hoppers are ruggedly built of 3/16" steel plate with continuous arc-welded seams. Five sizes, ½ to 2 yard capacity, mounted on live or semi-live skids with choice of wheels. Standard models shipped from stock. Also available in stainless steel or galvanized. For details and literature, write ROURA IRON WORKS, INC., 1415 Woodland Ave., Detroit 11, Mich.

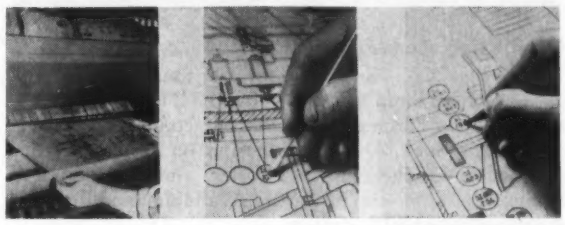
ROURA *Self-Dumping* **HOPPER**

For more details circle NED-903 B9 on enclosed inquiry slip

New Processes & Materials

DIAZO SENSITIZED FILM
Mylar base eases eradication for making corrections on master

The Mylar base of Perma-Scale Intermediate Film, a Diazo sensitized film for producing duplicate originals, provides ease of eradication, toughness, and dimen-



sional stability. Film is sensitized on its glossy reverse side. Thus, repeated eradication on this glossy surface cannot affect the front matte surface for making engineering changes. Lines from the original drawing are eradicated with a solvent-dipped cotton dauber, or with ordinary typewriter eraser. With the characteristic tensile strength and flex-life of the Mylar base, film will retain its original flexibility and transparency almost indefinitely. Film is available in both sepia and black line which have excellent actinic opacity. Made by **Eugene Dietzgen Co.**, Dept. N-4, 2425 N. Sheffield Ave., Chicago 14, Ill.

For more details circle NED-904 B9 on enclosed inquiry slip

PERMANENT ADHESIVE
bonds wood, metal, plastic, fabric

Only one surface need be coated with Dri-Tac permanent adhesive to form a strong bond without the use of presses or clamps. Wood, metal, plastic, cork, leather, fabric, and other materials can be wet or dry bonded with the nonflammable liquid, easily applied by brush, spray, roller coating machine, trowel, or other method. Materials coated can be adhered days, months, or years later by removing a release paper. Adhesive can be used to bond hardwood flooring to concrete or subflooring, apply various wall materials, or decorate furniture with plastic and other materials. Made by **Adhesive Products Corp.**, 1660 Boone Ave., New York 60, N. Y.

For more details circle NED-905 B9 on enclosed inquiry slip

DECORATIVE ALUMINUM
for trim use, has glittering finish

An unusual glittering finish identifies Spangle Sheet, an aluminum product which has possibilities as automotive and appliance trim, lighting fixtures, gift ware, novelties, and interior decorations. To produce Spangle Sheet, large grains are first induced in aluminum alloy sheet. Subsequent acid etching causes individual grains to stand out in relief and develops mirrorlike facets on each grain. Sheet is offered in mill finish, spangle etch finish, and spangle etch finish plus Alcoa decorative colors. It is available in 0.032 to 0.100-in. thicknesses and maximum lengths and widths of 96 and 36 in. Made by **Aluminum Co. of America**, 757 Alcoa Bldg., Pittsburgh 19, Pa.

For more details circle NED-906 B9 on enclosed inquiry slip

DRAWING LUBRICANT
for pressures up to 200,000 psi

Deep draws on tough metals can be made with the aid of 700 Wax-Draw, a lubricant for use up to 450° F which will handle pressures up to 200,000 psi. Hot water alone or a solvent bath, vapor degreaser, or alkaline washer will remove it after drawing. Lubricant will adhere to metal through multiple draws and may be diluted with water to any desired film thickness. Coated blanks may be drawn either wet or dry. They can be fed into a roller coater, then run directly into the press operation. Application is by roller coating, spray, dip, sponge, or other applicator. One gallon covers about 2000 sq ft. Made by **S. C. Johnson & Son, Inc.**, 1525 Howe St., Racine, Wis.

For more details circle NED-907 B9 on enclosed inquiry slip

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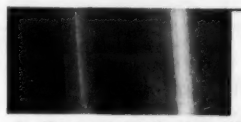
WOLVERINE TUBE
DIVISION OF CALUMET & HECLA, INC.
17270 Southfield Road
Allen Park, Michigan
Manufacturers of Quality-Controlled Tubing and Extruded Aluminum Shapes



For more details circle NED-908 B9 on enclosed inquiry slip

NEW Model 1-A SEVER-ALL CUTS AT 3 to 6 SECONDS PER SQ.IN.–ECONOMICALLY

- New abrasive cutting machine priced at less than $500
- Wheel oscillation provides capacity up to 2" square solids, 3½" O.D. pipe and tubing, 3" angle iron, 4" channels
- Gives clean, smooth cuts on large or small sections
- Cuts cold rolled, stainless, and alloyed steel; cast iron; non-ferrous metals
- Little or no set-up time required
- Just two wheels for all SEVER-ALL cutting jobs
- Available from distributors

Write FOR BULLETIN DH-106

ALLISON-CAMPBELL DIVISION AMERICAN CHAIN & CABLE ACCO
930-S Connecticut Avenue, Bridgeport 2, Conn.

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You never knew you could do so many things with MODERN ABRASIVES!

Say goodbye to many older, costlier metal working methods

Today, use Brightboy, the modern finishing medium that will perform many types of work previously unrelated with abrasive uses.

Brightboy's wide scope begins where conventional abrasives leave off. It's unique working action results from rubber and Silicon Carbide or Aluminum Oxide abrasive grains working simultaneously: BURRING, CLEANING, FINISHING, POLISHING, *in a single-step operation!* Readily available STOCK grains and textures are JOB-MATCHED to *your job!*

WRITE **NOW** FOR:
- SAMPLE BRIGHTBOY HAND TABLET
- CATALOG LISTING GRAINS, TEXTURES, MACHINE SPEEDS
- NEW METHOD RECOMMENDATIONS

and for name of nearest Brightboy distributor

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
95 NORTH 13TH STREET
NEWARK 7, N. J.
America's Pioneer Manufacturer of Rubber-Bonded Abrasives

WELDON ROBERTS **Brightboy** RUBBER CUSHIONED ABRASIVES

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WRITE TODAY FOR CATALOG #70
SHOWING NEW INDUSTRIAL APPLICATIONS

FLEXAUST hose and PORTOVENT retractable ducts are made of strong durable neoprene coated nylon or cotton fabrics, wire reinforced for suction or pressure uses. Sizes 1¼" to 36" i.d.

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IN SERVICE FOR YEARS

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for latest information on plant and product marking
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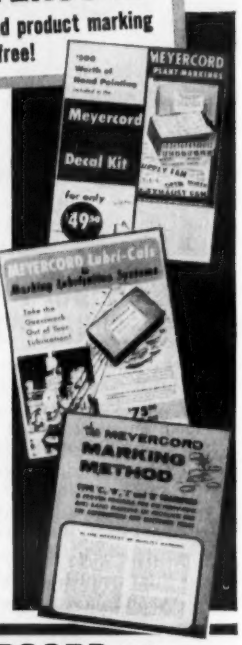


PLANT MAINTENANCE MARKING KIT
for Water, Heating and Air Conditioning Systems
Now in use by leading manufacturers and service organizations. Provides standardized identification, absolute legibility, and permanency at remarkably low cost. Kit includes 474 signs assorted over 59 operational subjects. Easily applied in seconds.

LUBRI-CAL MARKING KIT
Takes the Guesswork Out of Lubrication
An important preventive maintenance program. The proper frequency of numerals, letters and instruction nameplates for identifying lubrication points and required lubricants on plant, production and operating equipment. Permanent, tough, oil-resistant transfers.

DECAL MARKING METHOD
Decal marking for "difficult surfaces"
Heat, abrasion, weather and many of the new industrial surfaces are deadly enemies of most product markings. But not to new, improved Meyercord Decal Markings—types C, G, J and H (heat resistant). Ask for new brochure.

the MEYERCORD co.
Dept. E-316 5323 West Lake St., Chicago 44, Illinois

For more details circle NED-912 B9 on enclosed inquiry slip

this Howard fractional H. P. gear motor can be used for

RATIOS FROM 10:1 to 60:1

MODEL 2900: 2 Pole—4 Pole Induction with A26 Gear Unit
DIAMETER: 3⅝"
LENGTH: 7¾" to 8¹¹⁄₁₆"
HORSE POWER: 1/70 to 1/15 depending on length of stacking.
TORQUE OUTPUT: Up to 60 in. lbs depending on ratio.
BEARINGS: Permanently lubricated and sealed ball bearings.

Check your specifications with Howard. Write for complete details and prices on these and other Howard gear motors and reduction units.

BOTH universal and induction applications

MODEL 29-500: Universal AC/DC or Shunt with A26 Gear Unit
DIAMETER: 3⅝"
LENGTH: 7¹³⁄₁₆" to 7³⁄₁₆"
HORSE POWER: 1/70 to ¼ depending on length of stacking.
TORQUE OUTPUT: Up to 60 in. lbs. depending on ratio.
BEARINGS: Permanently lubricated and sealed ball bearings.

POWERED BY HOWARD

HOWARD INDUSTRIES, INC.
1740 State St., Racine, Wisconsin
Divisions: Electric Motor Corp., Cyclohm Motor Corp., Racine Electric Prods., Loyd Scruggs Co

For more details circle NED-913 B9 on enclosed inquiry slip

New Literature & Catalogs

Self-Drilling Concrete Anchors

Phillips Drill Co.—Snap-off, rod hanger, tie-wire, clinch nail, stud, and flush Red Head self-drilling concrete anchors are catalogued in a bulletin which charts pull-out and shear loads in pounds. Fastening applications for each fastener and bolt size from ¼ to ⅞ in. are among other data.

For more details circle NED-914 B9 on enclosed inquiry slip

Oscillating Conveyors

Link-Belt Co.—From 25 to 350 tons of bulk material can be handled hourly by the Flexmount, Coilmount, and Torqmount oscillating conveyors, subject of 24-page Book 2744. Information on trough widths, depths, section lengths, accessories, and selection and application data are included. Available modifications are described and illustrated.

For more details circle NED-915 B9 on enclosed inquiry slip

Fabricating Hastelloy Alloys

Haynes Stellite Co.—Step-by-step procedures and recommendations for welding, forging, forming, machining, grinding, brazing, heat treating, descaling, and pickling Hastelloy alloys are content of 36-page Booklet F-30,126. Information on lining of vessels and corrosion surfacing, plus boiler code data, are given for Alloys B, C, D, and E.

For more details circle NED-916 B9 on enclosed inquiry slip

Carbon-Graphite Material

Ohio Carbon Co.—Composition, qualities, and applications of Karak carbon-graphite are described in illustrated 8-page Catalog 1164A. Charts and tables present technical data. Characteristics and advantages are discussed and application information is included.

For more details circle NED-917 B9 on enclosed inquiry slip

Aluminum Chain Link Fence

Aluminum Co. of America—"Chain Link Fencing of Alcoa Aluminum" is title of 12-page booklet that reviews aluminum's role in the fence market. It outlines details of actual highway, industrial, and municipal installations of aluminum chain link fence. Technical data on strength, corrosion resistance, and durability are presented.

For more details circle NED-918 B9 on enclosed inquiry slip

Word Indicator Lights

Master Specialties Co.—Catalog 58C and Bulletin 101 describe Roto-Tellite word indicator lights which will rotate 360 degrees in their panel mounting for rebulbing from the front. Other features include removable legends, positive indexing, flush mounting, and ease of installation. Wide range of assemblies is available.

For more details circle NED-919 B9 on enclosed inquiry slip

Sling Chains & Attachments

McKay Co.—Up-to-date specifications and general data on McK-Alloy sling chains and attachments in diameters from ¼ to 2 in. are found in revised Bulletin A. Standard single, double, triple, and quadruple branch slings are covered, as are adjustable, adjustable loop, basket, and endless types. Proper storage, cleaning, and handling procedures are given.

For more details circle NED-920 B9 on enclosed inquiry slip

Resilient-Roll Glue Spreaders

Black Bros. Co.—Resilient-roll glue spreaders described in 12-page Bulletin 11-A, Part 4, are available in 39 sizes from 8 through 122-in. capacity. Spreaders handle resins, caseins, polyvinyl, protein, and similar adhesives. Bulletin points up construction features and optional equipment.

For more details circle NED-921 B9 on enclosed inquiry slip

Automatic Unscrewing Molds

Newark Die Co.—"Economics of Unscrewing Molds" is title of a reprint from Modern Plastics being offered in booklet form by this company. Article reveals how unscrewing molds for thermoplastic closures can be reduced in cost by standardizing mold-base designs to accept interchangeable parts.

For more details circle NED-922 B9 on enclosed inquiry slip

Locknuts

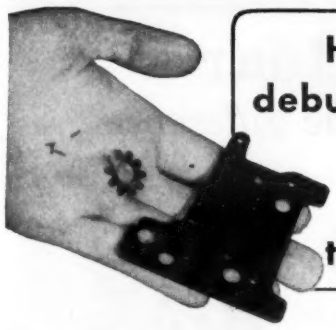
National Machine Products Co.—8-page condensed catalog contains basic engineering data and specifications on ¼ to 3-in. hexagon nuts; ¼ to ⅝-in. 12-pointer nuts; and ¼ to 1½-in. Conelok, Huglok, and Marsden locknuts.

For more details circle NED-923 B9 on enclosed inquiry slip

Service men all across the country agree . . . there's no other screw driver or nut driver with the built-in comfort of the VACO "comfordome" handle. Makes service work easy! Enjoy the luxury grip of a VACO . . . the driver that gives plenty of power, yet is always kind to hands. Next time choose a VACO and *feel the difference!*

Manufactured and Unconditionally Guaranteed by
VACO PRODUCTS CO., 317 E. Ontario St., Chicago 11, Ill.
In Canada: VACO-LYNN PRODUCTS CO., LTD., Montreal 1, Que.

For more details circle NED-924 B9 on enclosed inquiry slip



Hand your deburring and finishing problems to ALMCO

● Have you ever talked over parts finishing problems with ALMCO Engineers? It won't cost a dime . . . could save thousands of dollars. No matter what size your part is, the ALMCO Test Laboratory specialists can work out a cost-saving deburring or finishing process for it.

Why not find out if ALMCO barrel finishing can cut costs or remove an expensive production bottleneck for you?

Send your sample parts and specifications direct to the ALMCO Test Lab in Albert Lea, Minn., or ask your nearest ALMCO sales engineer to make arrangements. You'll receive a detailed report and suggested procedure, *without obligation to you.* Also, send for a free copy of the 52-page ALMCO barrel finishing catalog. It gives complete finishing data and costs on a wide variety of typical parts.

ALMCO
QUEEN PRODUCTS DIVISION
KING SEELEY CORPORATION
232 E. MAIN ST.
ALBERT LEA, MINNESOTA

For more details circle NED-925 B9 on enclosed inquiry slip

DUNDICK
TRIPLE-GUARANTEED
Reversible-Pin DE LUXE STEEL PLUG GAGES

Guaranteed LOW PRICE
In lots of 10 or more. Asst. Sizes.
Min. Order $10.00
$1.25 EACH

Guaranteed HIGH QUALITY
Oil-hardened Swedish-type tool steel. Reversible when worn. In plastic vial with label inside.

Guaranteed ACCURACY
Precision-ground in 720 sizes .030 to .750.
Tolerances guaranteed plus or minus fifty millionths!

INDIVIDUALLY OR IN SETS
ORDER NOW — or write for more information
DISTRIBUTORS — A few desirable territories still open — Write today!

DUNDICK TOOL WORKS, INC.
"The Precision Gage for the Atom Age"
3410 West 31st Street • Chicago 23, Ill.

For more details circle NED-926 B9 on enclosed inquiry slip

Easy to operate. Extremely durable. Simple to maintain.

For your files: Complete specifications and price list for all models. SEND INQUIRY CARD TODAY.

"CADILLAC"
LOW-COST
WINCH HOIST

Every Hoist PRE-TESTED for MAXIMUM PERFORMANCE MAXIMUM SAFETY

Check these features:

- Precision-built of certified materials.
- High-strength, corrosion-resistant TENZ-ALOY castings. Tensile strength 32,000.
- Light weight and compact.
- Stainless steel springs and shafts.
- Manganese bronze cam reduces pawl wear.
- "Safety-valve" handle breaks at severe overload.
- Drop-forged, heat-treated hooks. Safety hooks available.
- Equipped with galvanized, pre-formed aircraft wire rope.
- Tested to full 50% overload.
- Full year guarantee against defective workmanship and materials.

Model 202WX 1½-ton capacity equipped with 20' of 3/16" galvanized wire rope. Lifting ratio approx. 30 to 1. Weight 10 lbs. Min. distance between hooks 25". 20' single, 10' double line. Models from ½ to 2 tons cap. Prices: $29.50 and up.

ALUMINUM PRODUCTS, INC.
P.O. BOX 1462-N FORT LAUDERDALE, FLORIDA

▲ For more details circle NED-927 B9 on enclosed inquiry slip ▲

PREFERRED FOR OVER FIFTY YEARS

JAGABI®
LUBRITACT®
RHEOSTATS

NOW BETTER THAN EVER WITH NEW DESIGN REFINEMENTS

Now incorporating new and unique features, Jagabi Lubritact Rheostats are sturdier than ever . . . provide greater flexibility by interchangeability of major components. The screw-drive type shown permits precise adjustment using the knob. For quick control some users prefer the slider type, or new cage type for maximum operator safety. Whatever the application—in shop, testing department or lab—Jagabi Lubritact Rheostats assure these important advantages:

- Lubricated, laminated phosphor-bronze brushes with molded Bakelite saddle.
- Sturdy, nickel-plated, brass slider bar.
- Solid-wall, high strength, "sandpaper finish", porcelain tubes—Advance or Nichrome windings.
- Insulated universal binding posts.
- High insulation—minimum inductance.

Complete details on our lastest designs in rheostats are available on request. WRITE FOR BULLETIN 41-R

JAMES G. BIDDLE CO.
Electrical & Scientific Instruments
1316 ARCH STREET, PHILADELPHIA 7, PA

▲ For more details circle NED-928 B9 on enclosed inquiry slip ▲

New Processes & Materials

COOLANT CONCENTRATE for vapor mist applications

Providing a convenient means for filling vapor mist generators, Coolie Coolant concentrate is packaged in 6-oz cans. Mixed in ratio of one can per gallon of water, it makes a safe, rust inhibiting coolant for drilling, grinding, milling, and other machining operations. It is also suited for flooding operations. Offered by **Associated Technical Sales Co.**, 1926 E. Siebenthaler, Dayton 4, Ohio.

▲ For more details circle NED-930 B9 on enclosed inquiry slip ▲

HOT SPRAY VINYL COATING provides a heavy, quick-drying film

Application to tank exteriors and other vessels for varying chemical services and as a maintenance coating are uses for quick-drying V-80 hot spray vinyl coating. A 5-mil thickness can be applied in a single, high solids, spray coat with little overspray, good edge build-up, and good resistance to sagging. The long shelf life product dries rapidly to a tack-free, low-gloss film of moderate flexibility. It can be applied with any standard hot spray apparatus which includes a circulatory system. Made by **Gates Engineering Co.**, Wilmington 99, Del.

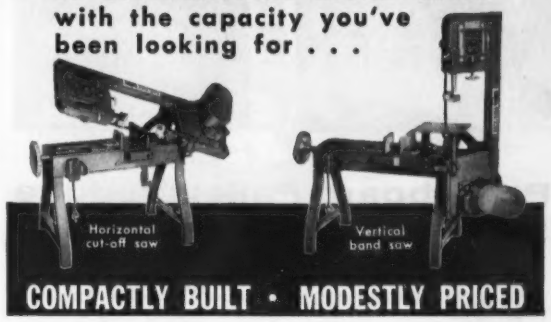
▲ For more details circle NED-931 B9 on enclosed inquiry slip ▲

WEED & GRASS KILLER pellets applied by spreader

Deep-rooted weeds and grasses as well as shallow-rooted and annual growth are killed by Chlorea Granular weed and grass killer. It contains sodium chlorate, sodium metaborate, and monunron and is intended for maintenance of plant grounds, railroads, power plants, and storage or parking areas. New growth is inhibited for 1 year or more. The dry pellets are applied by mechanical spreader or may be broadcast by hand. One pound will treat 100 sq ft, and about 450 lb treats 1 acre. Lower rate takes care of annual growth only. Material does not create a fire hazard and is nonpoisonous. Small sample packet is available from the manufacturer, **Chipman Chemical Co.**, Bound Brook, N. J.

▲ For more details circle NED-932 B9 on enclosed inquiry slip ▲

The New WELLS MODEL 58-B
A CONVERTIBLE BAND SAW
with the capacity you've been looking for . . .



COMPACTLY BUILT • MODESTLY PRICED

Here's the all new Wells Model 58-B . . . a metal saw designed and built for double duty—double value. It's a compact, rugged, well guarded, extremely versatile unit . . . economically priced. As a horizontal cut-off saw, Model 58-B features quick-action vise (swivels to 45°); automatic shut-off; adjustable guides. Capacity: 6" x 10" rectangular shapes; 6" dia. rounds. For vertical use, swing head to upright position and install work table. Optional wheel-handle unit provides complete mobility. Write for complete information.

Wells
The Pioneers of Horizontal
METAL CUTTING BAND SAWS
WELLS MANUFACTURING CORPORATION
1313 Harding Street • Three Rivers, Mich.

▲ For more details circle NED-933 B9 on enclosed inquiry slip ▲

Now...
FORK TRUCK VERSATILITY FOR
MULTI-PURPOSE RUGER CRANES

N-855-RE

New "STACK-Or-LIFT" accessory
PROVIDES INCREASED APPLICATION FOR RUGER MOBILE HYDRAULIC CRANES

Now, Stack-Or-Lift adds exclusive fork truck versatility to all ½, 1 and 2 ton Ruger Cranes. Reach in-under-over . . . combine almost any lifting, stacking or moving job into one operation . . . save the major expense of costly lift truck and overhead crane facilities. Outstanding features of Stack-Or-Lift are: full clearance around adjustable forks . . . optional counterweight and platform attachment . . . easily attached, removed and operated by one man . . . no-bump hydraulic control. Only Ruger Multi-Purpose Cranes with the new Stack-Or-Lift accessory make materials handling so simple and inexpensive.

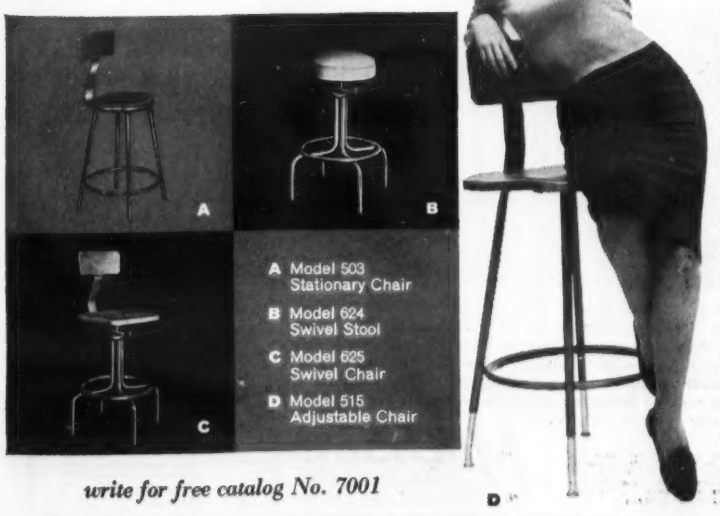
RUGER

Send For Stack-Or-Lift Literature Today.

RUGER EQUIPMENT INC.
614 West Fourth Street • Uhrichsville, Ohio

▲ For more details circle NED-934 B9 on enclosed inquiry slip ▲

Royal®
INDUSTRIAL SEATING



speeds production and improves efficiency

Worker alertness saves money in many ways—greater output, fewer rejects, less spoilage—and there's no better cure for mid-afternoon slump than right-posture *Royal* seating . . . the chairs and stools that last longer, look better, because that's the way *Royal* builds them.

ROYAL ORIGINATED POSTURE-SEATING FOR INDUSTRY

In the 29 *Royal* models, there's one just right for every job . . . at machines or assembly benches . . . for drafting, stock, and shipping rooms . . . in shop offices. Fixed or adjustable heights. Exclusive Royal *Micro-Hite* control. 4-way adjustable chair backs. Contour, flat, or padded seats. Look to *Royal*, too, for metal storage cabinets and the world's finest office seating.

ROYAL METAL MANUFACTURING CO.
One Park Avenue, New York 16, N. Y., Dept. 41B

write for free catalog No. 7001

▲ For more details circle NED-929 B9 on enclosed inquiry slip ▲

12 television coil tuners per carton

6 cartons per expendable pallet load

Paperboard Pallets reduce packing cost more than 1/3

Savings—in weight, in time, in materials, and in damage losses—savings are the reasons why Signode paperboard pallets take over more jobs every day. How come? *Because*

...they're light, but strong. A 10-lb. pallet can readily support 6,000 pounds. You can stack 1-ton unit loads 3 high!

...they're clean, smooth, easy to handle, space-saving, shock absorbing.

...they're *expendable*. No return or accounting or disposal problems. Your customers like this!

...they're available in sizes and shapes and strengths to meet your requirements without waste.

Let a local Signode Pallet Licensee design a unit load for your product that will produce maximum savings. For more information, write Signode.

Sponsored by Paperboard Pallet Manufacturers
in cooperation with
SIGNODE STEEL STRAPPING CO.
Dept. SP, 2643 N. Western Ave., Chicago 47, Ill.

▲ For more details circle NED-937 B9 on enclosed inquiry slip ▲

UNIVERSAL SELECT "O" RING KITS

Fills Replacement Needs on 85% of All Industrial Equipment

* 180 "O" Rings in Each Kit — Sizes 1 to 25.
* Patented Plastic Case Shows You "O" Ring Sizes in Kit at a Glance!
* Interchange Data of All Leading "O" Ring Producers in Each Kit — All Manufacturers' Numbers Converted to Universal Numbers.
* Buy Replacement Back-up Washers in these "O" Ring Sizes.

SELECT-O-RING KITS IN VITON . . $124.50
AN 6227 SERIES $59.50

Several Desirable Distributorships Available

BEARINGS, INC.
3631 EUCLID AVENUE, CLEVELAND 15, OHIO
DIXIE BEARINGS, INC.
276 Memorial Drive, S. W. Atlanta, Georgia

BEARINGS, Inc., 3631 Euclid Avenue, Cleveland 15, Ohio
Dear Sir:
Please send us _____ Universal "O" Ring Kits.
Material _____ Price _____
Name _____
Firm _____
Address _____
City _____ Zone _____ State _____

▲ For more details circle NED-938 B9 on enclosed inquiry slip ▲

New Literature & Catalogs

Automatic Controls for Air Conditioning

Barber-Colman Co.—Electric and electronic automatic control systems for such factors as temperature, humidity, and air distribution in air conditioning systems for commercial, institutional, and other applications are detailed in 8-page Bulletin F-8944.

▲ For more details circle NED-939 B9 on enclosed inquiry slip ▲

Emergency Lights

K-S Marine Products, Inc.—A new line of battery-powered portable and fixed emergency lighting units is described in 4-page Catalog 100. Included are sealed-beam spot lights, search and flood lights, flashing warning signals, beacons, flashers, reflectors, and warning flares.

▲ For more details circle NED-940 B9 on enclosed inquiry slip ▲

Precision Surface Equipment

Challenge Machinery Co.—Over 300 standard items of precision surface equipment are covered by Catalog 839. Described in this 8-page bulletin are angle plates, V-blocks, box parallels, straightedges, bench and layout plates, and similar precision equipment for the tool and machine industries.

▲ For more details circle NED-941 B9 on enclosed inquiry slip ▲

Electronic Components

Burroughs Corp., Electronic Tube Div.—Condensed information is presented in short-form catalog on beam switching, Nixie indicators, and other electronic tubes; decade counters; pulse controls; optimeters; beamplexers, and visual decoders.

▲ For more details circle NED-942 B9 on enclosed inquiry slip ▲

Package Opening Device

Dobeckmun Co.—Ready-reference brochure on Zip-Tape package opening device includes actual samples of this opener that is common to cigarette and gum packages as well as hundreds of others. Foldout guide lists size, type, and other data on standard sizes and describes how Zip-Tapes are used in modern packaging.

▲ For more details circle NED-943 B9 on enclosed inquiry slip ▲

Saw Blades

Ladish Co.—32-page "Saw Blade Handbook" No. 578 shows how to select proper blade, correct feed, speed, and tension. It also tabulates the sizes and types of band, hand hack, and power hack saw blades for cutting a wide variety of metals and nonmetallic materials.

▲ For more details circle NED-944 B9 on enclosed inquiry slip ▲

Knobs of Thermoplastic

Waterbury Cos.—Line of standard polystyrene and acetate thermoplastic knobs is illustrated and its diagrams and dimensions included in 6-page folder. Twenty-eight knobs from 5/16 to 2⅞ in. in diameter are shown.

▲ For more details circle NED-945 B9 on enclosed inquiry slip ▲

TIME YOUR TESTS IN SPLIT-SECONDS

GRA LAB

ALL PURPOSE INDUSTRIAL TIMERS

MODELS AT $23.95 TO $29.95

You can set the large 8" dial for any desired time period within an unusually wide range of 3600 possible settings, (i.e., 1 sec. to 60 min., 1 min. to 60 hrs., etc.). At end of preset interval alarm sounds and external load is automatically switched on or off.

Gra-Lab Micro Timers, **Electric Stop Clocks**, are available in 1/10 sec. or 1/1000 min. graduations for split-second measurements of elapsed time in laboratory or production operations, Price $37.50

WRITE FOR COMPLETE CATALOG!

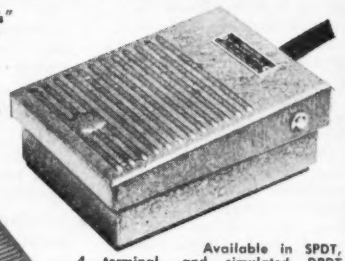
DIMCO-GRAY COMPANY 203 E. Sixth St. DAYTON 2, OHIO

▲ For more details circle NED-947 B9 on enclosed inquiry slip ▲

NEW **LINEMASTER** *designed especially for original equipment manufacturers by America's Footswitch Leader*

Hi-treadlite

Just 3½" x 2½" x 1¼" in size with strong gray hammertone finished steel housing, skid-proof rubber base pad, this 9½ oz. switch has long service life, high electrical rating.



Available in SPDT, 4 terminal, and simulated DPDT circuits. Combine any two to form a Hi-treadlite twin switch. Special cordsets, nameplates and colors available.

Write for prices, bulletin and complete catalog of the more than 75 Linemaster footswitch models.

LINEMASTER SWITCH CORP.
424 Woodstock Terrace • Woodstock, Connecticut

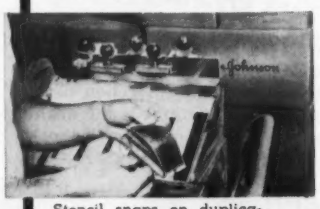
▲ For more details circle NED-948 B9 on enclosed inquiry slip ▲

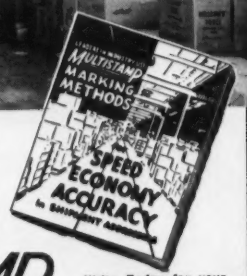
At JOHNSON & JOHNSON's mammoth shipping center, North Brunswick, N. J.

MULTISTAMP® Stencil Addressing System STOPS Freight Addressing Errors!

IT'S FAST! IT'S ECONOMICAL! IT'S ACCURATE!

Addressing stencil is cut in same typing with bill of lading and other forms.


Stencil snaps on duplicator, held firmly in place by tough backing board frame.



Shipping address errors are virtually eliminated when printed directly on cartons by the Multistamp Stencil Duplicator. Print becomes identical smear-proof permanent part of every carton in shipment. Cartons are addressed **accurately** as orders are assembled on dollies en route to transportation. Averages 3 1/3 sec. per carton . . a one man—one hand—operation.

Quantity users now save big money on VOLUME-PAK stencils . . . either plain or FORM-CUT. One day service on repeat FORM-CUT stencil orders . . . less than 10 days of new orders.

MULTISTAMP® STENCIL DUPLICATOR
THE MULTISTAMP CO. NORFOLK, VA.

Write Today for your Free copy of the illustrated new how-to (and why) book about the Multistamp Marking Methods.

▲ For more details circle NED-946 B9 on enclosed inquiry slip ▲

the electro-probe

NEW, LOWER COST ELECTRONIC GAGING

The new Electro-Probe Model 230 P-2 is far more than just another electronic test indicator.

- No need for special stands or holding fixtures.
- No need for external power.
- No voltage fluctuation or warm-up problems.
- No need for close gage head positioning during set-up.

The Electro-Probe introduces a new concept in Dimensional Control. Use of *printed circuits* and *transistors* means trouble-free performance. Connections are sure, operating current amazingly low — no heating or voltage regulation problems, no dependence on electrical outlets. Learn more about this truly portable, reliable, accurate and versatile gaging device.

Write for Literature.

FEDERAL PRODUCTS CORPORATION
9172 Eddy Street • Providence 1, R. I.

Ask FEDERAL First
FOR RECOMMENDATIONS IN MODERN GAGES . . .
Dial Indicating, Air, Electric, or Electronic—for Inspecting, Measuring, Sorting, or Automation Gaging

▲ For more details circle NED-949 B9 on enclosed inquiry slip ▲

Gary SUPER Galok* SERRATED ALUMINUM GRATING

Serrations scientifically designed to provide maximum positive footing. High strength to weight ratio, minimum deflection, maximum safety, corrosion resistant. Bars cannot turn, twist, loosen or fall out. Write for detailed specifications.

Gary SUPER Galok also available with plain bars.
Sizes for every need.

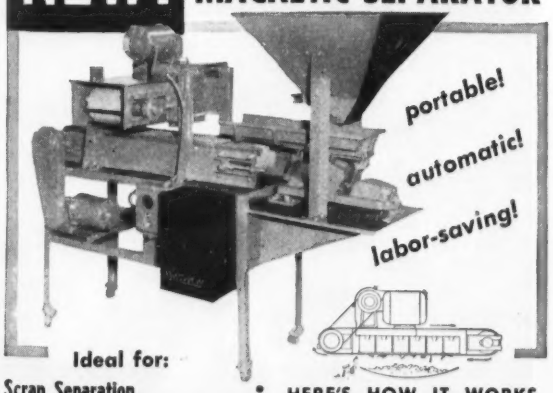
*Patents Pending

Catalog N-29

ROCKWELL-STANDARD CORPORATION
GRATING DIVISION
4017 E. Seventh Ave., Gary, Indiana

▲ For more details circle NED-950 B9 on enclosed inquiry slip ▲

NEW! DINGS general-purpose MAGNETIC SEPARATOR



Ideal for:

Scrap Separation, Tumbling Barrel Applications

Just wheel this new Dings TBS all-purpose Magnetic Separator right up to the job! Quality of separation and product purity are improved because feed rate can be controlled and magnetic intensity adjusted.

HERE'S HOW IT WORKS

Dings TBS consists of a portable conveyor, hopper with adjustable gate, vibrating feeder, and a Self-Cleaning Perma-Plate Magnet. An even layer of material is fed to the conveyor, and as it passes under the magnet, iron is lifted to the moving cross-belt and discharged to one side.

New Dings TBS units are completely field tested for effective performance. Write for details in Bulletin 1215-A.

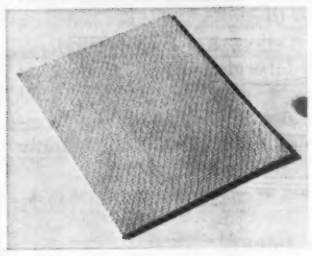
Dings
DINGS MAGNETIC SEPARATOR CO.
4758 W. Electric Ave., Milwaukee 46, Wis.

TBS-257 1/9

▲ For more details circle NED-951 B9 on enclosed inquiry slip ▲

New Processes & Materials

FLOOR COVERING
soft, resists stains, easy to clean



Made of foam rubber with a tread surface of tough patterned vinyl, Velvetex floor covering is soft to walk on, resistant to stains, and easy to clean. Dirt will not penetrate its long-wearing surface, permitting cleaning by vacuum, sweeping, wiping, or washing. The foam cushioning prevents skiding, and the fabric reinforcement will hold tacks and resist tearing. Suited for stairs, halls, entrances, and other areas, Velvetex is offered in green, gray, and beige colors in 27 and 54-in. widths. Made by **E. I. du Pont de Nemours & Co.**, Wilmington 98, Del.

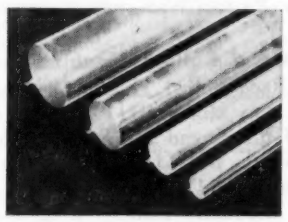
▲ For more details circle NED-952 B9 on enclosed inquiry slip ▲

ALUMINUM ETCHING COMPOUND
gives final decorative finish

Die marks and some structural imperfections are hidden by the final decorative finish given to aluminum articles by Alsite etching compound. The etched finish is also an excellent base for further lacquering, anodizing, chromatizing, or other proprietary aluminum finishes. The powdered, dustless composition is soluble in cool or warm water; exhibits controlled foaming to trap alkali spray; removes light, oily soils; and prevents formation of aluminum oxide scale on tank and heater parts. Depth of etch is uniform. Compound also has long bath life, storage stability, and will not cake. Developed by **Kelite Corp.**, 81 Industrial Rd., Berkeley Heights, N. J.

▲ For more details circle NED-953 B9 on enclosed inquiry slip ▲

PLASTIC ROD
scratch and chemical resistant



Unaffected by any known solvent, Homalite 100 transparent plastic is now produced in 1/4, 1/2, 3/4, 1, 1 1/2, and 2-in. diameter rods in lengths up to 36 in. Formerly available only in sheets, the abrasion resistant material withstands temperatures up to 230° F, and substantially higher heats for short periods. It can be sawed, drilled, or machined and will not crack, craze, or discolor upon exposure to sunlight and the elements. Made by **Homalite Corp.**, 15 Brookside Dr., Wilmington 4, Del.

▲ For more details circle NED-954 B9 on enclosed inquiry slip ▲

Clecomatic automatic screwdriver-nut runner
EXCITES PRODUCTION
PLEASES MANAGEMENT

Feather light and midnight quiet, Clecomatic makes s-p-e-e-d-y production a sure bet. Clecomatic starts and stops automatically while maintaining positive torque control. There's no throttle, no stalling! An exclusive Cleco mechanism starts the Clecomatic when the bit engages the screw or nut, then shuts it off when the screw is tightened to precise, preset torque specifications.

The Clecomatic air motor operates only during actual rundown. Less air is required per job. Tool wear is greatly reduced. Clecomatic has earned management's enthusiastic approval because no other air tool offers such outstanding economy and efficiency.

WRITE today for descriptive literature on Clecomatic—the one of a kind automatic screwdriver-nut runner.

Division of REED ROLLER BIT COMPANY
P. O. Box 2119 • Houston 1, Texas, U.S.A. • In Canada: Cleco Pneumatic Tool Company of Canada, Ltd., 927 Millwood Road, Leaside (Toronto), Ontario

CLECO AIR TOOLS

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READY MIXED "ROCK TRED"

a NEW floor ready for use IN 12 TO 24 HOURS

Heavy-Duty Rock-Tred offers the fastest, easiest, most economical method of obtaining a new, durable, heavy-load-bearing floor. Floors resurfaced with Spark-Proof Rock-Tred can be used for light service 12 to 16 hours after installation, and opened for heaviest traffic in 24 hours. Comes ready-mixed. Anyone can apply it. Extremely durable, no other re-surfacer equals its strength and lasting qualities. Handles any load that can be moved on wheels. Will not crack or crumble. It's the toughest floor on earth. Write for complete details. NOW!

ROCK-TRED Corporation
Manufacturers of a Complete Line of Building Maintenance Materials
7440-7450 North St. Louis Avenue • Skokie, Illinois

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Randleman, North Carolina
VALVE MANUFACTURERS FOR HALF A CENTURY

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offers you 5 times more heat . . . in the same space!

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Operation data, tests, performance charts, etc. Yours on request.

- New high in watts densities and temperatures!
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- New design flexibility — the same heat as a standard cartridge heater in a unit 1/5th the size!

WATLOW
ELECTRIC MANUFACTURING CO.
1374 Ferguson Avenue
Saint Louis 14, Missouri

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if you use saws send for this book

This free book is based on facts and experience from many years' use of Foley precision saw filing equipment in thousands of plants. It contains pictures and helpful data showing how firms have actually increased sawing production 25% to 40%, lengthened saw life, reduced breakage, produced better work, and have lowered maintenance costs (one firm reports an annual saving of $350). Book includes instructions illustrating how automatic sharpening can benefit you. Request Manual No. 100—no obligation.

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GAS PUMPS
VACUUM PUMPS

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- No internal lubricant or seal required
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- Precision-made, rugged construction
- Write for bulletin on gas and vacuum pumps

Representatives located in principal cities. Consult your classified telephone directory.

1165 S-12

SUTORBILT CORPORATION, 1966 EAST VICTORIA ST., COMPTON, CALIF.

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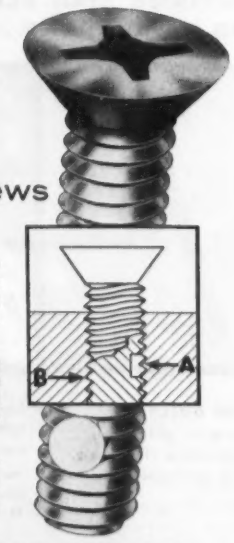
WON'T WORK LOOSE!

Continental HOLTITE NYLOK® Self-locking Screws



Resilient nylon plug (A) sets up a lateral thrust, wedges mating threads together (B). Locking is positive — seated or unseated. Screw cannot work loose.

The simplest self-locking fasteners, NYLOK Screws are easy to drive . . . can be removed and replaced . . . act as seal for gases, liquids.

NYLOK may be the answer to your assembly problem. For complete details write Dept. ND.

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SCREW COMPANY, NEW BEDFORD, MASS.
HOLTITE FASTENERS

PHILLIPS AND SLOTTED HEAD TAPPING SCREWS, WOOD SCREWS, MACHINE SCREWS, SEMS, BOLTS, NUTS, STANDARD OR SPECIAL . . . FOR ANY ASSEMBLY

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New Literature & Catalogs

Latest Plastics Data

Latest information to aid plastics buyers in their purchases is provided in highly detailed 64-page catalog. Its 12 sections cover Plexiglas, vinyls, acetates, phenolic laminates, nylon, Teflon, Kel-F, polyethylene, polystyrene, Rexolite, and Fiberglas. Final section on "Supplies" includes necessary data on coatings and accessories. Write on company letterhead to the General Sales Manager, Commercial Plastics & Supply Corp., 628-30 Broadway, New York 12, N. Y.

▲ For more details circle NED-962 B9 on enclosed inquiry slip ▲

Ideas for Updating Equipment

Allis-Chalmers Mfg. Co.—"59 Ideas for Modernization in '59" is title of 20-page brochure which points out many ways that companies in various industries are modernizing or updating their operations. Criteria for selection of ideas are: Does it improve operating efficiency? Does it increase production? Is it safer? Is it lower cost? Does it eliminate a maintenance problem? Does it improve working conditions?

▲ For more details circle NED-963 B9 on enclosed inquiry slip ▲

Ceramic Capacitors

Globe-Union Inc., Centralab Div.—16-page cross reference guide 42-588 lists over 600 Centralab ceramic capacitors by type and rating. Separate sections are devoted to general purpose discs and tubulars, temperature compensating discs and tubulars, high voltage discs, dual capacitors, buffer capacitors, low voltage capacitors, and stand-off and feed-through, transmitting, high accuracy, and trimmer capacitors.

▲ For more details circle NED-964 B9 on enclosed inquiry slip ▲

Automatic Cutting Machines

Motch & Merryweather Machinery Co., Wink Div.—Wink high speed automatic cutting machines for the automotive, rubber, ceramics, plastics, textile, aircraft, and electrical industries are subject of 8-page Bulletin W100. The high speed cutting principle of these machines allows up to 3-in. diameter materials to be cut, hot or cold, wet or dry, without distortion.

▲ For more details circle NED-965 B9 on enclosed inquiry slip ▲

Thread Rolling Machine

Reed Rolled Thread Die Co.—Complete information on the Model B111 two-die type horizontal cylindrical die thread rolling machine is furnished in 8-page Bulletin B111-1. Methods of both in-feed and through-feed thread and form rolling are shown. Machine can be manually loaded, or arranged with automatic and semiautomatic feeds.

▲ For more details circle NED-966 B9 on enclosed inquiry slip ▲

Precision Gears

General Electric Co.—High-performance, precision gears from less than 1 to 200-in. diameters and with tooth-to-tooth spacing accuracies of 0.0002 in. are descriptively covered in 24-page Bulletin GEA-6430. Such allied products as various gear testing devices and high-speed flexible couplings are also described in bulletin.

▲ For more details circle NED-967 B9 on enclosed inquiry slip ▲

Silicone Products

Dow Corning Corp.—What silicones can best meet the needs of a variety of problems ranging from adhesives to release agents, resins to rubber, and dielectrics to water repellents are reviewed in 1959 Reference Guide 1-114. Expanding indexing system of the guide facilitates quick location of more than 150 silicone products now commercially available.

▲ For more details circle NED-968 B9 on enclosed inquiry slip ▲

Safety Manual for Power Presses

Ninety-six pages of the "Power Press Safety Manual" describe power presses from basic construction to maintenance. Written to cover any size and type of press, it has chapters on why a press guarding program is necessary, functions of press parts, training, and maintenance. Quantity prices are available from its publisher, National Safety Council, 425 N. Michigan Ave., Chicago 11, Ill.

▲ For more details circle NED-969 B9 on enclosed inquiry slip ▲

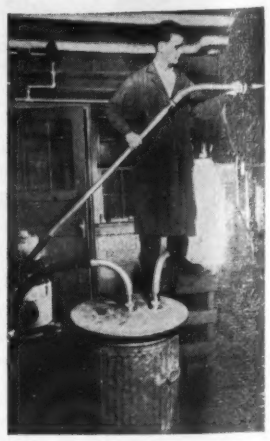
Roller Gravity Conveyors

Lamson Corp.—Descriptive illustrations in handbook "Roller Gravity by Lamson" explain the application of gravity conveyors and their more common accessories. Easily read charts assist in matching a conveyor to the loads to be handled. Specifications of all available units are provided.

▲ For more details circle NED-970 B9 on enclosed inquiry slip ▲

How to save up to 20% on fuel

$117.50 Kit adapts any industrial vac for flue and furnace cleaning



● U. S. Dept. of Commerce says: "A ¼ inch coating of soot in a furnace cuts its efficiency in half. A ⅛ inch coating makes it ⅛ less efficient."

A 20% saving is actually a conservative guess of what the Multi-Clean ADD-A-TANK can save you in fuel bills.

ADD-A-TANK fits any industrial vacuum cleaner. Use it with a standard 30 gallon or smaller ash can to add extra capacity and keep messy ashes and soot out of vac. Efficient, economical, and a big time saver in cleaning flues, picking up ashes and other bulky materials.

No explosion risk

Do safety precautions prevent use of ordinary industrial vacs? The ADD-A-TANK is your answer. Use it safely in the danger area while you keep the vacuum cleaner safely outside.

For Boiler Flues . . . Chimneys . . . Furnace Fire Boxes . . . Elevator Pits . . . Explosion-Hazard Areas

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Includes complete cover plate assembly, special flue cleaner tool, 10'—1½" black hose, two 4' extension handles, 2' flex joint, three right angle connectors, 8" adjustable wire brush tool.

MULTI-CLEAN Method

For further information, write Dept. NE-2-29

MULTI-CLEAN PRODUCTS, Inc.

2277 Ford Parkway St. Paul 16, Minn.

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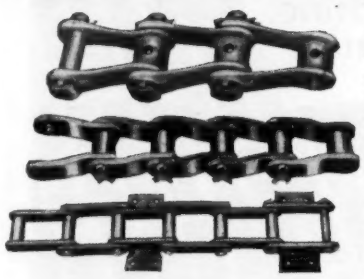
Webster CHAINS



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WEBSTER Belt Conveyor Idlers embody the finest design, materials, and workmanship possible. They operate with utmost efficiency, and are economical on power and maintenance. A full range of sizes for light to severe service.

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DEPT. NE-29 TIFFIN, OHIO
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Offices in all Principal Cities

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Facts on flex and expansion joints . . . that can save you maintenance and expenses are detailed in this bulletin. Send for your copy. Write Dept. 208, RESISTOFLEX CORPORATION, Roseland, N. J.

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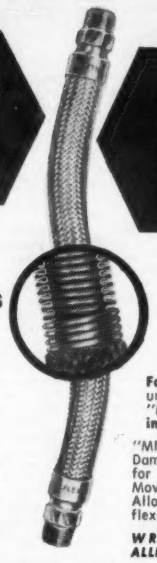
NOW Allflex

"MNH" FLEXIBLE CONNECTORS

FROM STOCK FOR FASTEST SERVICE

• STAINLESS STEEL
• BRONZE
• MONEL



THESE STOCK SIZES
¼" ⅜" ½" ¾"
1" 1¼" 1½" 2"

IN THESE STOCK LENGTHS
12" 18" 24" 30"
36" 48" 60" 6 FT.
8 FT. 10 FT. 12 FT. 15 FT.
. . . also available in all standard sizes, in any required length, with any standard or special fitting or flange.

ALLFLEX Standard "MNH" Flexible Connectors are sold through leading Industrial Distributors. If not available locally — THEY CAN BE SHIPPED FROM FACTORY SAME DAY ORDER IS RECEIVED.

ALLIED's new "MNH" in-stock plan assures you SAME-DAY SHIPMENT of the most popular standard "MNH" Flexible Connectors.

• No more delays while your unit is custom-built.

For the first time, you have an unequaled choice of standard "MNH" sizes and lengths . . . **in-stock** at all times.

"MNH" FLEXIBLE CONNECTORS: Dampen Vibration. Compensate for Misalignment. Permit Offset Movement. Absorb Expansion. Allow "travel". Handle most flexing applications.

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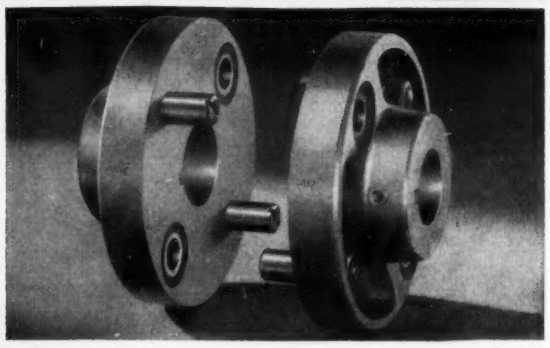
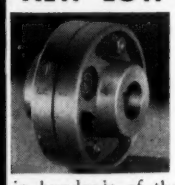


NEW LOW COST FLEXIBLE COUPLINGS ANNOUNCED BY AJAX



Original equipment manufacturers and plant engineers can now have the protection of AJAX positive resilient drive for direct-connected machines at minimum cost.
The performance of new AJAX Series 400 Couplings is based on the same proven design which has been giving satisfaction in hundreds of thousands of installations for nearly 40 years. Their 4 steel studs and sleeve bearings require no lubrication. Rubber cushions absorb unavoidable misalignment. Periphery and face of flanges are machined to simplify lining up with straight edge or feeler gauge.
AJAX Series 400 Flexible Couplings are made in 4 sizes with 1¼", 1¾", 2¼" and 2¾" maximum bore respectively with standard square keys. Write for Catalog 67.

AJAX FLEXIBLE COUPLING CO. INC.
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Representatives in Principal Cities
Also Manufacturers of AJAX Vibrating Conveyors, Screens, and Feeders
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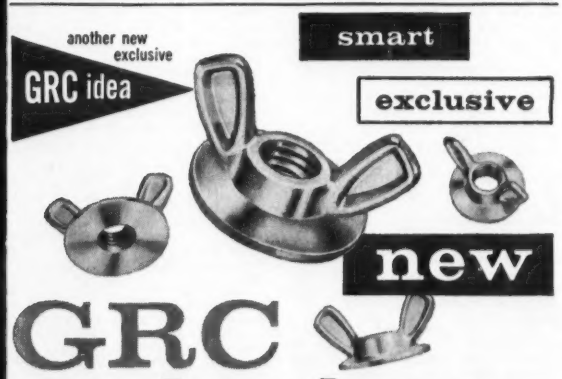

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GRC washer base wing nuts

Rust-proof, corrosion resistant zinc alloy.
Cut Assembly, Cut Costs
Integral wide diameter washer base. Eliminates need for separate washer assembly. You save assembly time and labor, lower your inventory costs as well!
These patented GRC recessed-wingnuts are highly suitable for all wing nut applications; especially desirable for use with oversize bolt holes, adjusting slots, soft surfaces. Hold better because of greater seating area. 14 thread sizes—#6 thru ⅜". Mass production die casting in zinc alloy produces a smarter, smoother wing nut with bright, rustproof finish, ready for use "as is" or plated.

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Cationic molecular film of Rustend rust inhibiting oil protects steel, brass, and aluminum from corrosion, rust, and water spotting. The film containing rust inhibitors and moisture repellents is thin and invisible, and will not interfere with machining or handling. It is also nontacky and nontoxic, and can be removed by any petroleum solvent or detergent. Applied by spray, brush, or dip, Rustend is used outdoors at full strength and indoors in ratio of one part to four parts of solvent. Price is $3 per gal in 5-gal cans or $2.50 gal in 50-gal drums. Made by **Biofen Laboratories,** 14 Sixth St., Bridgeport, Conn.

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Plastic and cotton yarns woven into a fabric and immersed in a solution of Bakelite phenolic resin form Ruslon low friction bearings. They are said to eliminate the need for lubrication in mechanical applications ranging from miniature instruments to hydroelectric stations. In manufacture, the impregnated fabric is cut into shapes determined by the application, then bonded under pressure into a metal receptacle with a heat-sensitive adhesive. Resulting bearings are light in weight, resistant to heat up to 350° F, dimensionally stable under most atmospheric conditions, and have a low coefficient of friction. They are also resistant to acids and alkalies and are not subject to electrolysis or salt water corrosion. Made by **Russell Mfg. Co.,** 378 E. Main St., Middletown, Conn.

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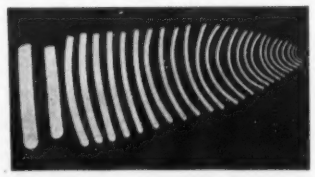
TEFLON INSTRUMENT TUBING in sizes from 0.010 to 1 in.



All recognized military, SAE, and ASTM specifications are met by this Teflon tubing intended for use in fluid streams, instrumentation, and metric tubing connections. Low permeability, chemical and solvent resistance, easy cleaning, service temperature to 500° F, and excellent electrical insulation properties are featured. Tubing is suitable for vacuum and pressure service, for transmitting pressure surges, and it will not contaminate a stream. It will not wet out, can be sterilized, and is translucent for viewing streams. Tubing is offered in 0.010 to 1-in. diameters as well as millimeter sizes. Made by **Pennsylvania Fluorocarbon Co.,** 1115 N. 38th St., Philadelphia 4, Pa.

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WHITE CORE PLASTIC PIPE assures clean, potable liquids

Pure white polyethylene core added to plastic pipe assures clean, antiseptic conveying of water or other potable liquids. Puritan White Core polyethylene plastic pipe also has excellent eye appeal and is made by a process which lowers the cost of the pipe without sacrificing wall thickness, pipe weight, or burst strength. The 100 per cent virgin core material guarantees a nontoxic inside surface for conveying liquids. Made by **H. K. Porter Co.,** Quaker Rubber Div., Tacony & Comly Streets, Philadelphia 24, Pa.

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Proven in use by leading manufacturers, PLASTIC STEEL can cut costs, speed production in your plant. 1001 uses in industry. FREE catalog on request — write for your copy today.

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DEVCON CORPORATION

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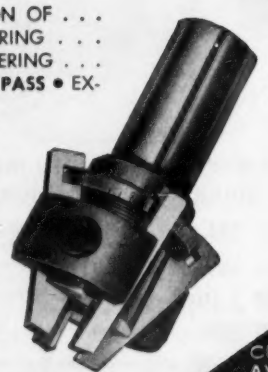

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ROCHESTER 5, N.Y.

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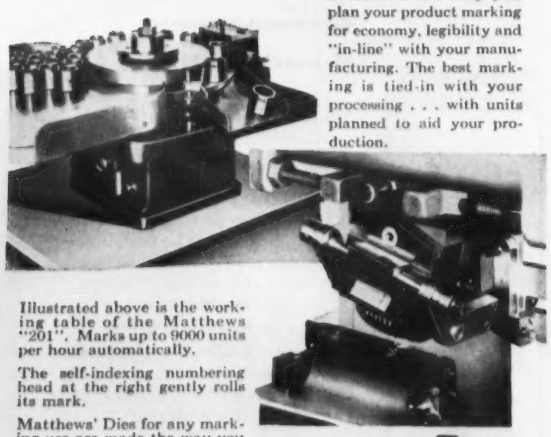

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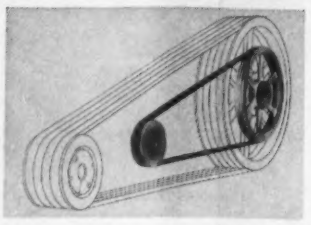

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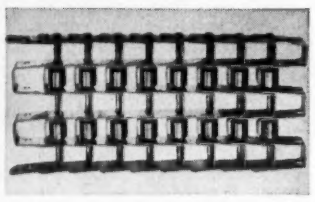

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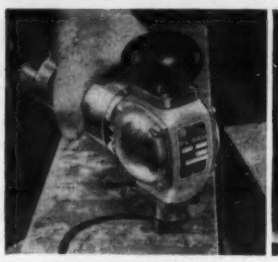

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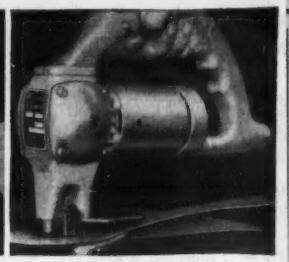

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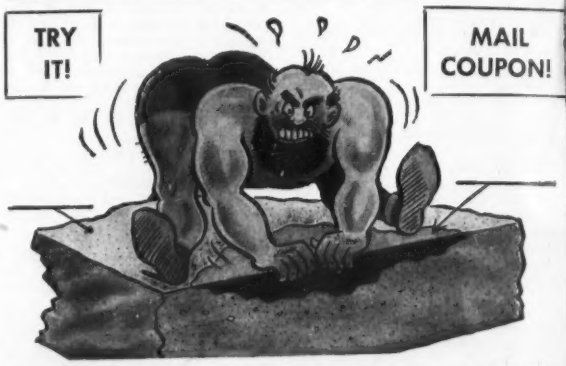

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